ECONOMIC DEVELOPMENT OF MODERN JAPAN

from a feudalistic agricultural-based country in the 1850s to second in the free world in terms of GNP in the 1980s.

What has made this sustained growth possible?

ECONOMIC DEVELOPMENT OF MODERN JAPAN

by

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PREFACE

Japan "took off" on the road to modernization and economic growth slowly at first in the 1820s-30s and then rapidly with the Meiji Restoration in 1868. In those years, per capita output was a mere one-fourth to one-fifth of the Western countries; today it has reached the level of Western Europe. What has made this sustained growth possible?

Numerous studies and texts have been published about this success story. The present book is an attempt to analyze and focus upon the salient points of Japan's economic development in terms easily understandable to the general student and reader with particular reference to upper secondary school and first-year college students in the developing countries.

Economic Development of Modern Japan is an outgrowth of two previous studies of mine available in English: *Economic Growth in Prewar Japan* (Yale University Press, 1983) and *The Postwar Japanese Economy* (University of Tokyo Press, 1981). These books may be of

interest to those wishing to pursue the subject of this present book at length.

I wish to express my appreciation to Mr. Bernard Grace for his invaluable assistance in preparing this English text and the many graphs used to interpret particular conditions. I wish also to acknowledge the support given by the Ministry of Foreign Affairs in bringing this publication into being.

All opinions and interpretations are those of the author and do not necessarily represent the views of the Ministry of Foreign Affairs.

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CHAPTER 1
ECONOMIC DEVELOPMENT, JAPAN'S CASE — AN OVERVIEW

Major Events and Path: A Brief Economic History

For some two hundred and fifty years prior to the Meiji Restoration (when the Emperor was reinstated as the de facto holder of power) in 1868, Japan had enjoyed relative peace and had also been isolated from the rest of the world. Nevertheless, the origins of Japan's spectacular long-term growth, which has been sustained over the last hundred years, are to be found in this period.

Japan's modern era dates from 1868 and the Meiji Restoration (see Chapter 2), which was indeed an epoch-making event, ushering in, as it did, breathtaking social and political reforms. Within two decades, the framework of the new system had been established:

- a national monetary system with the Bank of Japan as sole issuer of banknotes
- a fiscal system based on the land tax
- the expansion of infrastructure, including roads, railroads and shipping
- a nationwide post and telegraph system
- the adoption of the joint stock organization as the corporate form
- the import of machinery and foreign engineers, and
- government-operated factories

By the time World War I erupted, a strong foothold for industrialization had been established with more and more technological imports. Of particular note was the development of the cotton spinning industry and electric power together with

increasing private capital formation. Nevertheless, agriculture still predominated for it supplied the food for the greater population and growing urban areas and also revenue in the form of the land tax. That such a country, still primarily agriculturally based, could win two major wars — the Sino-Japanese War of 1894-95 and the Russo-Japanese War of 1904-05 — attracted world attention . However, these and other militaristic incursions in Asia proved to be costly and a big drag on national finances.

World War I transformed Japan's economy — industrial production rose five times and exports soared — and she had become a creditor nation by 1920. However, the war boom ended the same year and a series of panics occurred, culminating in the Gold Standard Embargo of 1930 which coincided with the global Great Depression of the early-1930s. There was a migration back to the land and rural areas were at subsistence level. Nevertheless, Japan's economy grew fast compared with other nations, and structural change occasioned by the war continued apace. Food imports from Japan's colonies — Formosa and Korea — meant agriculture's significance declined and, reflecting depression in the United States, raw silk ceased to be the main foreign exchange earner in the early-1930s. Indeed, by the late-1920s industrial income overtook income from agriculture which by 1936 accounted for less than 20% of national income.

In the 1930s, the export of light industrial goods increased, especially cotton and silk fabric (rather than raw silk) which by the middle of the decade dominated. However, despite good export growth, light industry as a component of overall production declined from 80% to 50% while heavy and chemical industrialization spread so that by the late-1930s Japan had a well-developed heavy industry.

Increasing heavy industrialization saw some concentration of industry and in the interwar years the *zaibatsu* (cohesive family-controlled groups of monopolistic companies in key economic areas), like Mitsui and Mitsubishi, grew in power, extending their interests to all kinds of industrial activity. Thus, with the

ascendancy of the military in the late-1930s it was only natural that they should look to the zaibatsu to fulfill their programs for armaments build-up. By the outbreak of the Pacific War in 1941 virtually all sectors of the economy were controlled and utilized for the war effort.

At the end of World War II Japan's economy lay in ruins and it was perhaps easy for the Occupation authorities to rapidly proceed with their "demilitarization" and "democratization" policies in the areas of land reform, the dissolution of the zaibatsu, and the promotion of labor organizations. Faced with starvation, for agriculture had almost collapsed, many again migrated back to the land and undertook anything to get a few coins to buy a bowl of rice. The Occupation authorities were severe and declared that Japan's recovery would have to depend on her own efforts.

However, with the start of the Cold War in the late-1940s, the attitude of the United States changed abruptly and it sought to build Japan into an ally in the free world. Then, with the outbreak of the Korean War, Japan experienced a boom, inducing substantial plant and equipment investment. Concurrently, expenditures of the U.S. military in Japan greatly increased foreign reserves allowing Japan to import more raw materials for further industrial development.

From the time Japan regained her independence in 1952 until the "Nixon shock" of 1971 and the oil crisis of 1973, her GNP (gross national product) grew rapidly — an average 10% — and by 1968 she had become the number two economy in the free world. This period of rapid economic growth is fully described in Chapter 6, so more will not be said here.

The 1973 oil crisis was really the end of rapid economic growth for Japan. So heavily dependent on crude oil imports for energy, she saw her import bill increase enormously. Nevertheless, she pulled out of the subsequent recession more quickly than other nations, but only to be hit by the further hike in oil prices following the Iranian revolution in 1978. Since then she has been

trying to pursue stable growth at a lower level of around 4-5%.

Overnight Transition — The Meiji Restoration Compared with Other Industrialized Countries

Whereas the modern economic growth experience of other industrialized countries was one of gradual evolution, that of Japan was sudden and unexpected. Great Britain, the first country to undergo industrialization from about 1760, was already a power by that time with a relatively advanced social and political background. For some two hundred years her economic activity had been diversifying as witnessed by her increasing overseas exploits and colonies. The same gradual economic evolution is true of other European countries and the United States to which areas the industrial revolution spread. While signs of Japan's modern economic growth were apparent from the 1820s, 1868 is the pivotal year — the year of the Meiji Restoration, when the Emperor Meiji was restored to power with a pragmatic and realistic government recognizing the times and deliberately embarking upon modernization.

Though Japan's pre-Meiji social and political life cannot be termed backward, for it was very culturally sophisticated in many respects, it was very insular and localized, having been immune to outside influences as a result of the enforced isolationist policy pursued by Japan's feudal government since 1641. Furthermore, freedom of movement and occupation were restricted. Hence, until the 1850s there was practically no foreign trade — in fact, economically, Japan was a feudalistic agricultural-based country with most of her population at a little above the subsistence level, in sharp contrast to other industrialized nations on the eve of their industrialization. This distinction is emphasized by one estimate that gives per capita income at the start of economic growth in some advanced nations as being an average five times greater than that of Japan in 1868.

Underscoring the significance of Japan's overnight transition

from a feudal state to a modern one is that the year 1868 is to the Japanese what 1066 is to the British, 1776 to the Americans, and 1789 to the French. However, there is one big difference, for not only did it usher in far-reaching political and social changes but also modern economic growth.

It is, of course, an exaggeration to say that everything changed overnight for modern economic growth did not really get going until the late-1880s and after. Nevertheless, as already mentioned, the first years of the Meiji period saw land reform, a unified currency, government-sponsored modern works, and the introduction of some foreign engineers and technology, all of which would be of considerable advantage later. However, the period was still centered on traditional sectors the output of which grew with an increase in related exports, for with no big capital investments by the private sector modern sectors were relatively insignificant until the Russo-Japanese War of 1904-05.

Salient Features — High Saving, Labor System, and External Factors

Despite the government initially investing in imported technology and setting up model modern plants, it was the private sector from the late-1880s and into the twentieth century that was the principal vehicle of modernization through capital accumulation and subsequent investment in imported technology. This reflected the quick acceptance of the profit motive and beginning of a high and stable savings rate which has basically continued until today.

This thrift is very much part of the psychological make-up of the Japanese — initially in reaction to pre-Meiji and Meiji times when people saved because it was a new experience and also for specific goals such as a house — and post-World War II in reaction to the great and widespread deprivations experienced. Now, in the 1980s, the relatively high savings rate compared with other countries is partially explained by the aging population.

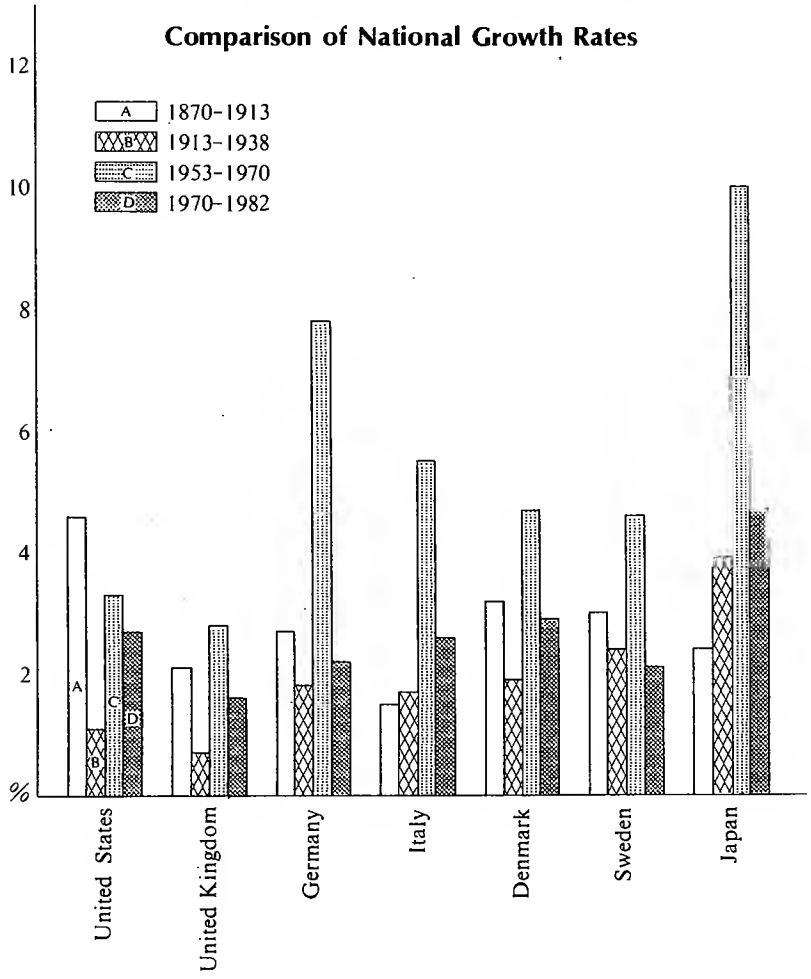
Coupled with a management-labor system peculiar to Japan which tends to mitigate confrontation is a labor flexibility provided by the so-called "dual structure" whereby excess labor can be separated during times of recession. Previously, the traditional sector (including agriculture) provided labor, especially in the 1960s. (More on this subject will be mentioned in later chapters.) While labor in Meiji times and after was relatively cheap, this is not the case now — in fact it is quite expensive, but of a high quality.

Of utmost importance are external factors which have a great impact on Japan — sometimes for the better, sometimes the worse. For instances of the former we can immediately cite World War I and the boom it occasioned for Japanese exports, the Cold War which resulted in the United States changing her rather severe immediate postwar policy, and then the Korean War and special procurements by the United States in Japan which paved the way for the rapid growth of the late-1960s. As regards the latter, that is, impacts of an adverse nature, there is the global Great Depression of the 1930s, and more recently the "Nixon shock" and 1973 oil crisis which spelled the end of high growth. Recognition of Japan's extreme vulnerability to external factors is fundamental to an understanding of her economic growth, past and present. Indeed, it was the second arrival of Commodore Perry's fleet in 1854 that persuaded the authorities to forgo their isolationist policy and modernize, and it might well be the arrival of higher-priced crude oil in the future that pushes the nation into another recession and zero growth. Then, of course, there is the constant underlying fear of natural disasters like the catastrophic earthquake that leveled the Tokyo area in 1923.

Growth Cycles and Components

In trying to analyze and explain Japan's economic growth, especially after World War II, many scholars have pointed to long-term sustained growth, which despite some downturns had

continued on a steady upward path at an accelerating tempo until 1973 and the oil crisis. Graph 1 shows this accelerating growth



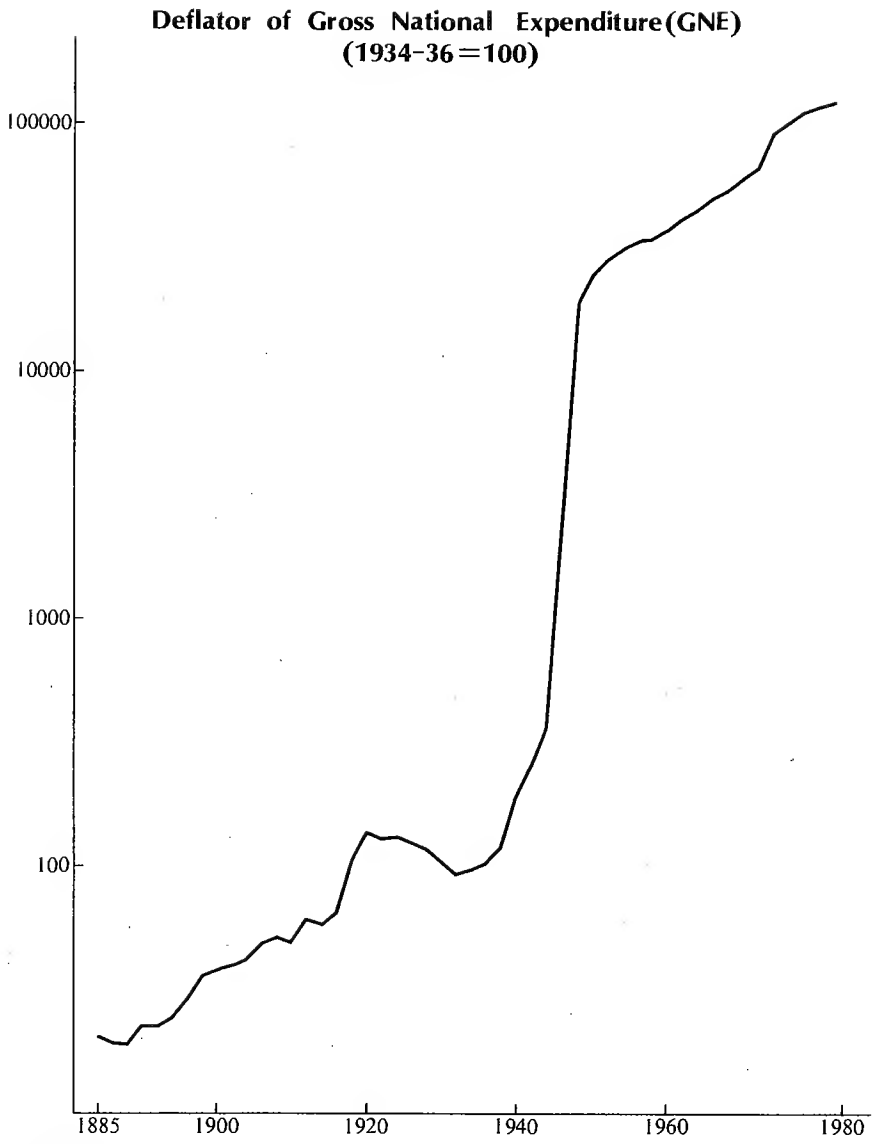
Graph 1

Sources : U.S.Department of Commerce, "Historical Statistics of the United States"; B.R.Mitchell, "European Historical Statistics 1750~1970", (McMillan, 1975); Ohkawa and others, "Patterns of Japanese Economic Development" (Yale University Press 1979); and United Nations Statistical Yearbook.

and the 50% drop reflecting the two oil crises of the 1970s and resultant much higher crude oil prices. While higher oil import bills significantly affected major oil importing nations such as the Federal Republic of Germany, the United Kingdom, and Japan, the United States could draw on her own oil reserves. The big jumps in economic growth (see Graph 1) posted by the Federal Republic of Germany and Japan in the 1953-70 period are in reaction to the economic devastation they experienced at the end of World War II and hence higher growth rates than other countries might well be expected. Nevertheless, in Japan's case she had regained her prewar peak of 1937 by 1954 and her projected accelerated growth path by 1962. Thus, after an interval of about twenty-five years comprising the war, reconstruction, and recovery, Japan was back on her long-term growth trend that accelerated until the 1970s.

Some have observed that Japan's economic growth is of an inflationary nature, and this is perhaps borne out by GNE (gross national expenditure) as seen in Graph 2, which is almost identical to the path of CPI (consumer price index). As Graph 2 shows, late nineteenth century Japan was characterized by inflationary growth which is explained by a rapid increase in money supply which, in turn, had a big impact on prices. Under the silver standard, the yen depreciated against Western currencies because the price of silver was declining against gold. Japan's terms of trade deteriorated, but this was favorable for exports. This experience stands in marked contrast with that of Western nations which had been on a gold standard since the 1870s.

Looking further at Graph 2 we see that the steepest rise occurred from 1914-20, which corresponds to the World War I boom, and then suddenly dropped, mirroring the Panic of March 1920. World War I had thrown not only domestic economies but also international economic mechanisms into such confusion that President Harding of the United States called for a "return to normalcy". The impact of external factors in the form of world trends thus intensified in post-World War I years. The sharp drop in the graph is indicative of very tight money measures as part



Graph 2

Sources : Ohkawa and others, "Patterns"; and Economic Planning Agency, "National Account Statistics".

of deliberate deflationary policy to stop inflation. This resulted in chronic depression with attendant unemployment, strikes, an agricultural crisis, and big price drops (though not as great as compared with some other advanced countries), especially for agricultural products. Deflation suppressed aggregate demand so much that, looking back, it can be said that too much was done too late; in other words, the austerity measures were too violent and much too late. Though deflation was aimed at a return to the gold standard it occasioned unemployment and a stagnation of trade which ran pell-mell into the Great Depression of the early-1930s.

In the latter half of the 1930s GNE increased moderately, continued rising during World War II, and then catapulted upon defeat in 1945 as dramatically shown in Graph 2. Once postwar reconstruction had been completed, however, the increase rate was curbed somewhat though it continued at a steady 5% annual increase. However, occasioned by more expensive imports due to the huge rise in oil prices, a jump in land prices because of Prime Minister Tanaka's ambitious plan to remodel Japan, and an increase in money supply reflecting balance of payments surpluses, the years 1973-74 saw rapid inflation which together with unemployment became the determinants of economic growth. Generally, the government has taken timely action to avoid economic disasters like the early-1920s and 1930, and inflation in Japan was brought down by 1977, ahead of other countries, and the government promoted economic stimulative measures. Nevertheless, when faced with too much or too little from the viewpoint of austerity measures, the government has naturally tended to err on the side of too little, remembering the experience of the 1920s, and hence an inflationary tone has accompanied Japan's economic growth.

Within this overall picture of inflationary economic growth we can find several long cycles:

- Finance Minister Matsukata's deflation of the early-1880s and the growth phase until the establishment of the gold

standard in 1897 (1888-97)

- the growth phase from the very beginning of the twentieth century until the end of the second decade despite a small decline around 1910 (1901-17)

- the downturn of the 1920s, a slight recovery in the middle of the decade, the 1927 panic, and the third growth phase in the 1930s (1931-37)

- the wartime economy of the late-1930s and early-1940s and eventual postwar collapse, reconstruction, and then recovery (1954 to the late-1960s)

The years in parentheses above indicate growth periods:

- 1888-97 coinciding with modern industrialization having got a firm foothold, a return to the gold standard, and a capitalist economy taking shape

- 1901-17 being the final years of Meiji economic development and the eve of heavy industrialization

- 1931-37 and after in which prewar economic development reached a peak and the effects of chemical and heavy industrialization became apparent

- 1954 to the late-1960s when Japan recovered her prewar level and began to grow again

Vulnerable to external factors as it is, the economy began showing signs of slowing in the early-1970s reflecting:

- anti-pollution policies and related heavy investments

- the "Nixon shock", and the following revaluation of the yen

- the global food crisis

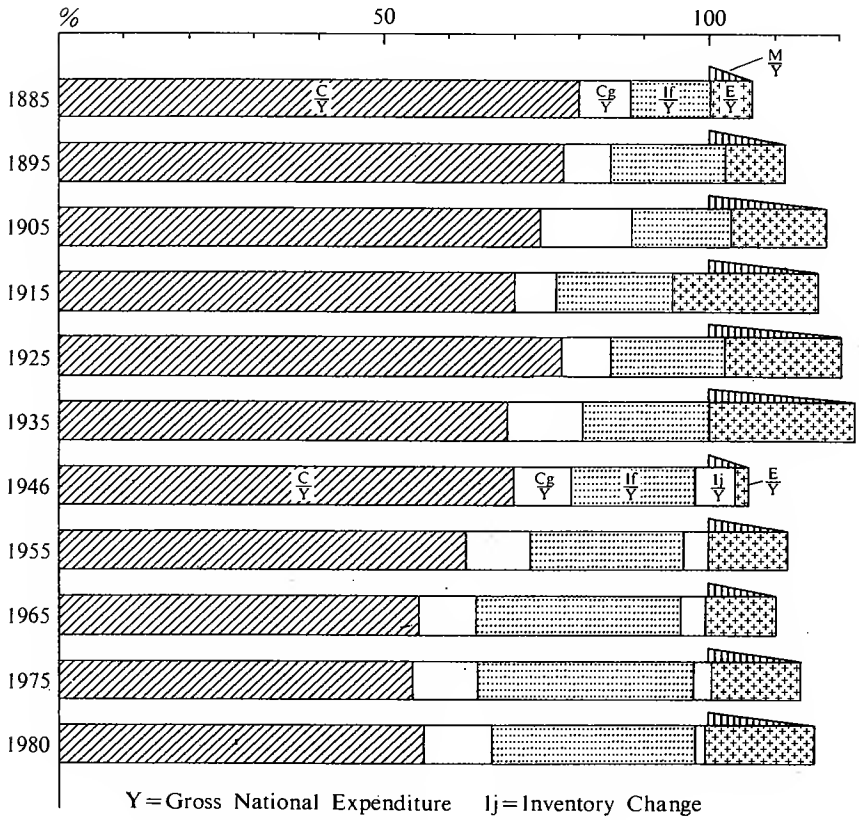
- the first oil crisis in 1973

After marking a dramatic drop, GNP recovered to mark a stable path at lower growth levels of about 5% from 1976 to 1979. Into the 1980s it decelerated somewhat (3.7% in 1980), but is still above that of other industrialized nations and, in fact, has recently been rising above expectations to the 4-5% level. Japan's sustained growth despite World War II is extraordinary compared with other countries. Looking at GNE components in nominal terms (Graph 3) we see that until about the 1910s private consumption was around 75% and government consumption about 6-7%, while capital formation rose gradually from 12% in 1885 to nearly 20% and has been about 30% since 1965. The increasing share of government investment in the Meiji years to total investment evidences the rising level of activity in public works such as roads, ports, and railroads and shows that the basic preconditions for economic growth were gradually being provided. Exports were 6-7% of GNP in 1885 but rose to 15-20% from the middle of the Meiji period until the 1930s, which illustrates the importance of export markets in GNP growth. Since 1955, too, exports have been a major component, especially pulling the country out of recession as was the case following the first oil crisis.

Long-term growth over the pre-World War I period was about 3%, supported by strong export and import growth which indicates that the pattern of the Japanese economy as a processor dependent on trade had already emerged. It is also clear that there was a great expansion in government outlays after World War I. Moreover, the growth rate of plant and equipment investment rose remarkably in the 1930s, while growth of consumption was quite low. This pattern of growth resembles that of the postwar high-growth period which displayed a higher long-term growth trend.

Such long-term patterns are evident in the growth of private and total capital formation. Furthermore, it has been seen that when economic growth is about or above the projected trend line

National Income Composition(Gross National Expenditure in Nominal Terms) (GNE=100)



Y=Gross National Expenditure
C=Personal Consumption
Cg=Government Consumption
If=Gross Domestic Fixed Capital Formation
Ij=Inventory Change
E=Exports
M=Imports

Graph 3

Sources: Ohkawa and others, "Patterns"; and Economic Planning Agency, "National Account Yearbook".

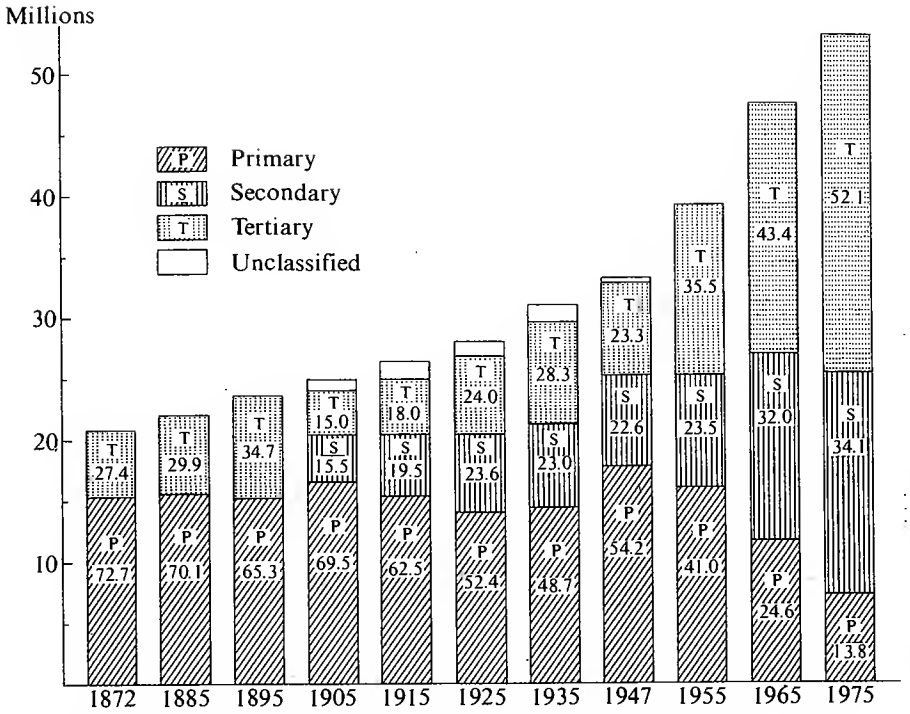
private investment leads, and that when it is below public investment leads. Thus, the government's role in curbing inflation by imposing tight money measures and then in stimulating the economy via public works expenditures to bring it out of recession has been effective, especially from a psychological viewpoint. However, from accounting for almost 30% of domestic capital formation in the first half of the 1960s, the government's role has been declining. And, with fiscal maneuverability strictly limited due to the national deficit, the private sector will increasingly have to lead growth.

Changes in Industrial Structure

Graph 4 illustrates that the primary sector accounted for the major proportion of the working population until 1935. Although this was the case in 1947, too, it was abnormal in that it reflected the agricultural sector having to absorb the huge number who found themselves jobless following defeat. Thereafter, the proportion steadily declined to 13.8% in 1975. Looking at the graph in terms of actual numbers employed we see that the trend of those employed in the primary sector has declined since 1905, except for the abnormal post-World War II years. Actual numerical increases were experienced by the secondary and tertiary sectors which, in fact, accounted for most of the increment in the working population.

The fairly large proportion in the tertiary sector even in 1872 testifies not to the existence of organizations run on modern lines but to occupations in the traditional sector including shopkeepers, craftsmen, street vendors, etc., some of whom continue to function today. From the viewpoint of net domestic product (Graph 5) the secondary and tertiary sectors have increased in importance with a corresponding decline in primary industry. While accounting for about 45% of net domestic product in 1885, primary industry (which translates into mainly agriculture) delined to about 18% in 1935 and under 10% in 1975. The increase in 1947 reflects the abnormal post-World-War II situation.

Employed Population

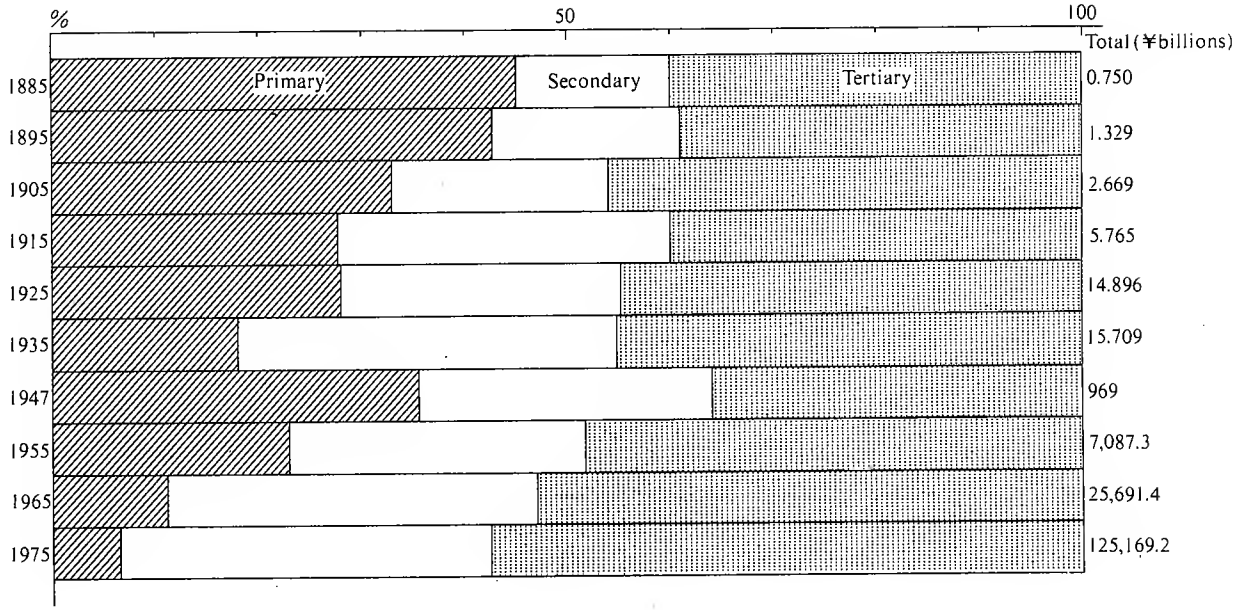


Graph 4

Sources : Ohkawa and others, "Patterns"; and Statistics Bureau, Office of the Prime Minister, "Population Census".

While tertiary industry fluctuated around 40-45% from 1885 to 1935, post-World War II it has consistently increased to almost 60% in 1975. However, this increase is not as big as that marked by secondary industry from 15% in 1885 to almost 40% in 1975. It is notable that secondary industry expanded considerably between 1905 to 1915 and again in the mid-1930s reflecting industrialization and growing armaments production, respectively.

Net Domestic Product by Industry Composition



Graph 5

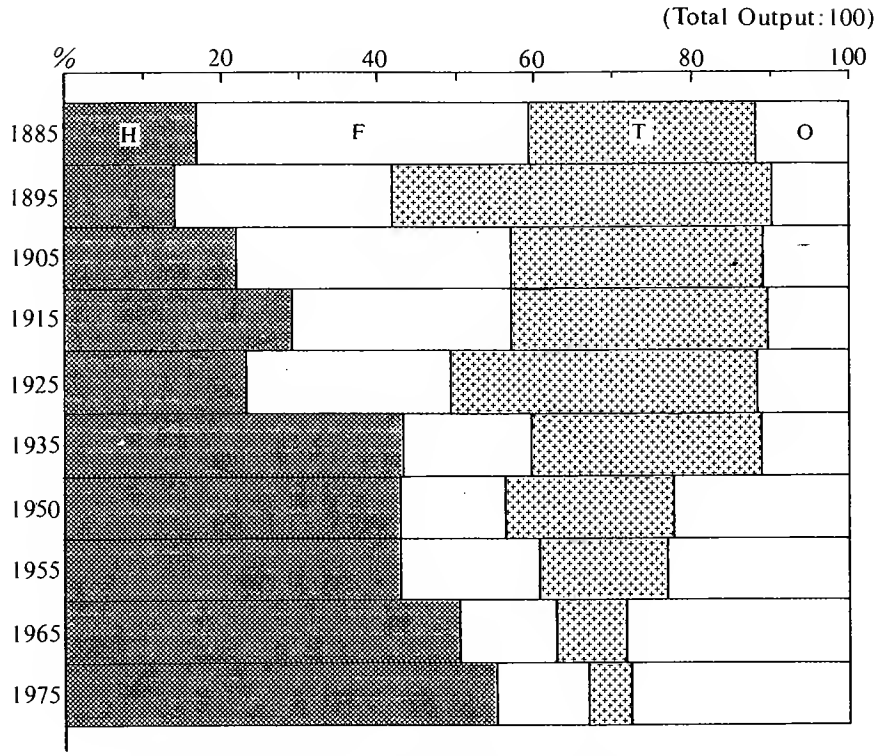
Sources : Ohkawa and others, "Patterns"; and Economic Planning Agency, "National Account Yearbook".

A breakdown of secondary sector goods (Graph 6) is further revealing. Heavy industry and chemical items had reached 20% of overall manufacturing by the close of the Meiji period in 1911 whereas textile goods dropped from about 50% in 1895 to 30% a decade later. Food products occupied a share of manufacturing similar to textiles, and basically Meiji era industrial structure remained unchanged until the 1930s, when heavy industry greatly expanded due to technological progress and demand for industrial products. As Graph 6 shows, heavy industry has greatly expanded since World War II at the expense of food products and textiles, especially the latter.

Regarding prices, those of agricultural products have risen the most as shown in Graph 7, mainly due to the slow introduction of technical innovation in this sector. Despite an increasing population, the production of rice, Japan's staple, was not sufficient to meet domestic demand in some periods such as the 1900s, 1910s, and the Pacific War and imports were needed from Formosa and Korea. The immediate post-World War II years saw a tremendous hike in the prices of agricultural products. Though the farming sector absorbed huge numbers of unemployed, a greater number began to return to the urban areas as recovery got underway and output rose by 50% reflecting improved methods utilizing fertilizers and insecticides as well as machinery. Additionally, land reform permitted larger land units, and this, coupled with a greater input of capital, facilitated productivity increases. Hence, after an interval of some thirty stagnant years, it was not until the 1950s that the agricultural sector showed any significant productivity increases with prices artificially maintained at a high level supported by government subsidies.

Industrial products, by contrast, have displayed more or less consistent and rapid productivity increases from 1880 until 1970 as seen by their relative price declines in Graph 8. Technological progress in the industrial sector was particularly evident from the 1920s and early-1930s which kept prices down, and then again in the 1960s and 1970s. Such big advances in productivity since World War II are the result of many factors including:

Manufacturing Output and Its Composition



H — Heavy and Chemical Industry (iron and steel, non-ferrous metal, machinery and chemical industries)

F — Food Products

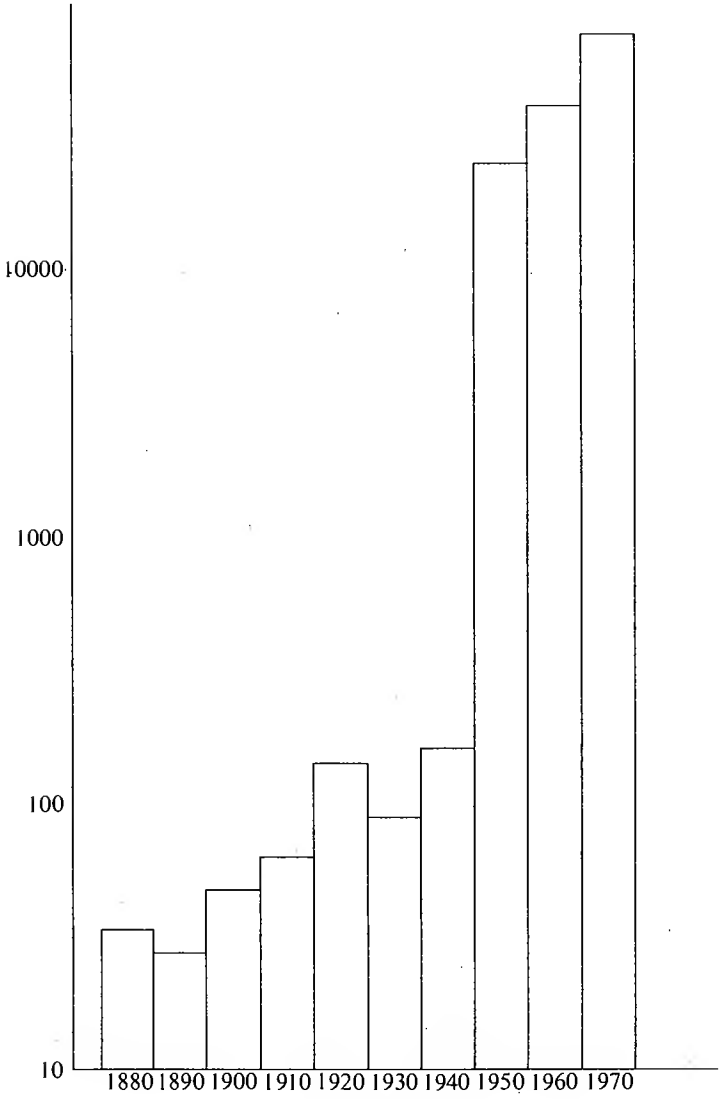
T — Textiles (textiles and related products)

O — Others (including pulp and paper, oil, rubber, ceramics, wood and furniture industries, etc.)

Graph 6

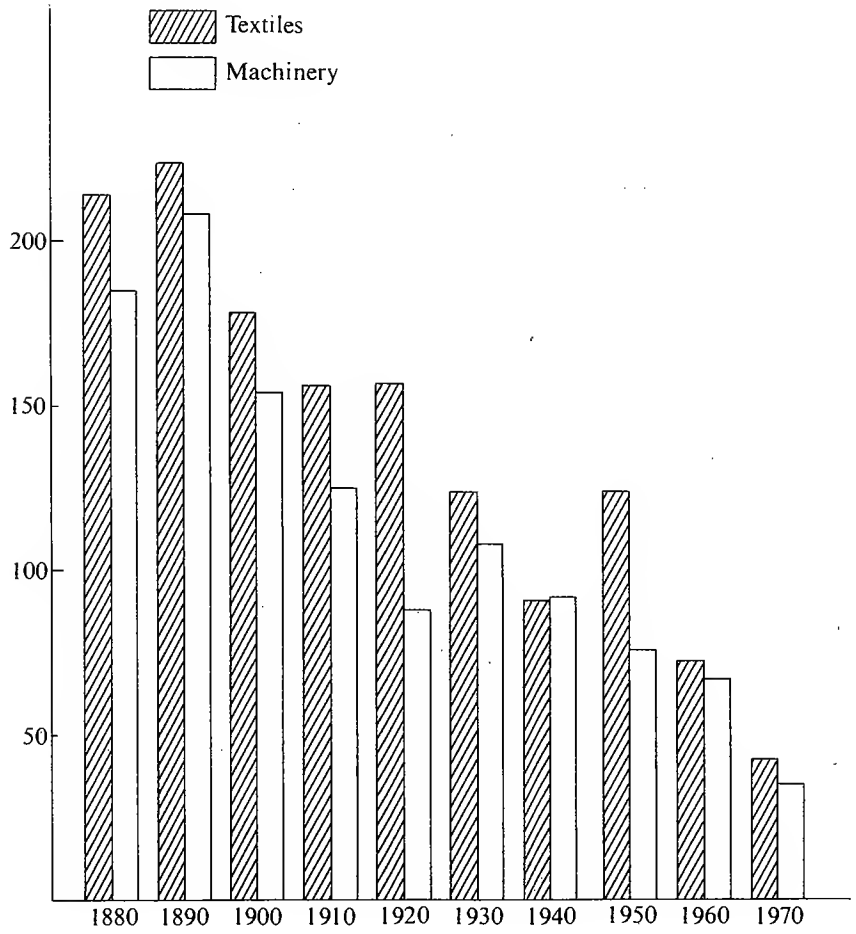
Sources : Ohkawa and others, "Patterns"; and Ministry of International Trade and Industry, "Census of Manufactures".

Price Index of Agricultural Products (1934—36=100)



Graph 7
Source : Ohkawa and others, "Bukka" (Prices) (Long- term Economic Statistics), Toyo Keizai Shimpo Sha.

Relative Prices of Industrial Products to Agricultural Products



Graph 8
Source : Same as Graph 7.

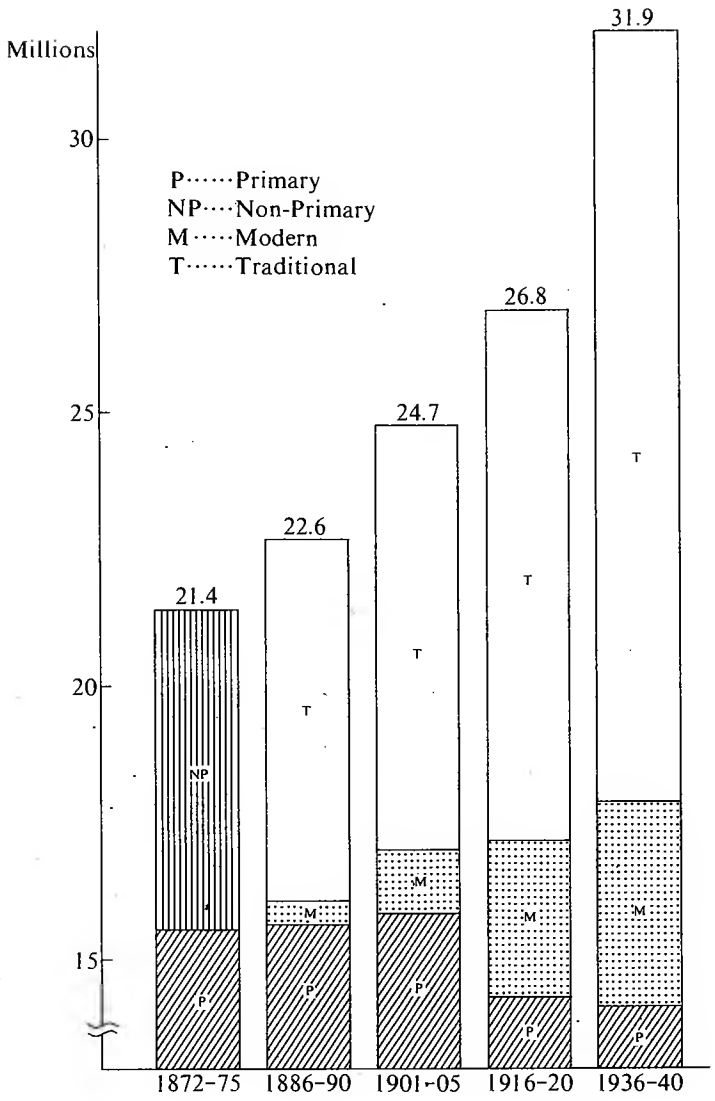
- economies of scale from mass production
- a high quality labor force with few disputes
- sufficient capital investments
- continuing technological innovation, and
- big export markets reflecting high international price competitiveness

In this discussion of industrial structure we lastly have to consider traditional industry, which while not being so significant for modernization did play an important role in the overall economy up to the end of World War II and still accounts for some 10-15% of the working population. What is traditional industry? Perhaps just a few examples will suffice, such as craftsmen engaged in making the various components of a traditional Japanese-style house, weavers of old-style cloth, artisans producing traditional items, a miscellanea of specialty food shops and eateries, and a large number of shopkeepers engaged in a wide variety of activities more associated by Westerners with past centuries than the twentieth. While many traditional occupations have disappeared, the number of self-employed and small businesses has dramatically risen since World War II.

As seen in Graph 9 the traditional sector posted steady growth from the 1886-90 period to account for 36.1% of the working population in 1916-20 and by 1931-35 had reached 41.5%. Naturally, the traditional and modern categories together made up the non-primary sector, and as such, broke down into secondary and tertiary industries. However, such industries introduced from overseas as railroads, banking, and steam-powered shipping were obviously included in the modern category. On the other hand, introduced industries like baking, silk reeling, etc., were transformed so much that they came to be called "new traditional industries", which with "old traditional industries" such as carpentry and cottage industries in general comprised the traditional sector.

The big drop in the primary sector from 1916-20 probably

Population Structure of Primary, Modern, and Traditional Industry



Graph 9
Source : T.Nakamura, "Economic Growth in Prewar Japan" (Yale University Press).

represents the increased tempo of urbanization in the 1910s reflecting increased demand for secondary and tertiary goods, especially the latter. Since the number employed by modern industry did not increase substantially in the 1920s, those seeking work in the urban areas were forced into the traditional sector as Graph 9 well illustrates, which was the beginning of the dual structure which will be examined in Chapter 4.

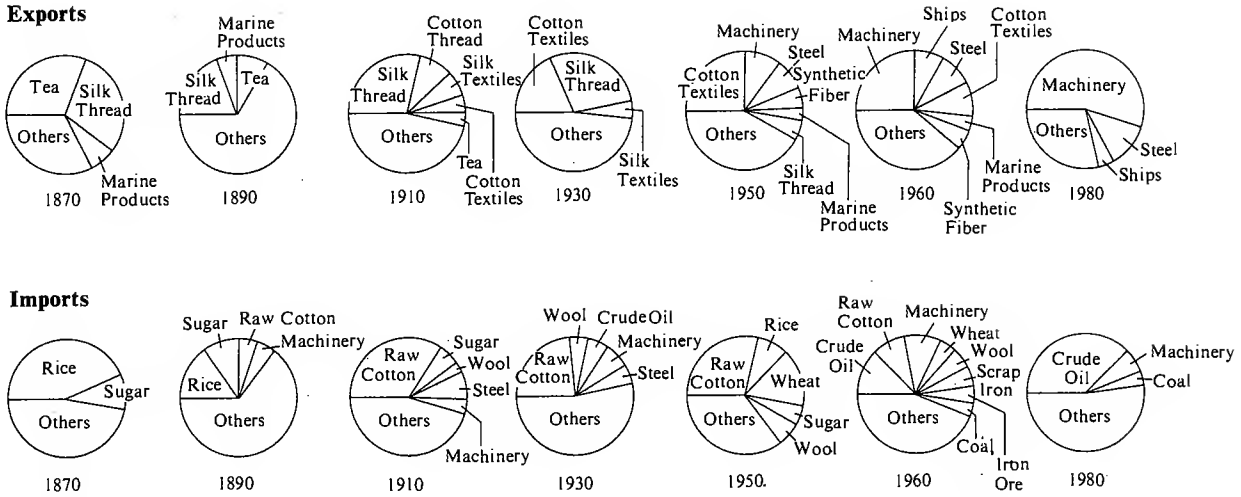
A similar pattern occurred after World War II though at that time the primary sector, essentially agriculture, absorbed a significant proportion.

Trade

From 1900 to the 1960s, the average rate of export growth (constant prices) exceeded GNP growth. One reason explaining this is that large exports were necessary to earn foreign exchange to finance the import of raw materials. Furthermore, export prices declined relative to domestic prices, mirroring the export of manufactured goods with large productivity gains and which were particularly competitive internationally in the 1960s. The import of manufactured goods declined, meaning that domestically produced items came to substitute for them. However, one category that cannot be substituted is raw materials and crude oil, the import of which has greatly accelerated since World War II both on a volume and a value basis.

As regards the composition of exports, Graph 10 shows that in 1870 primary products such as tea, silk thread, and marine products predominated but that silk and cotton textiles began to appear about 1910 and continued to be of importance up to the 1930s and beyond. If Graph 10 showed 1940 we would see the growing significance of the heavy and chemical industries which started to oust other export items from 1950 onwards and actually exceeded light industrial exports from 1960. One common denominator linking the pre-World War I, interwar, and post-World War II periods is that exports were essentially based

Major Components of Japanese Trade



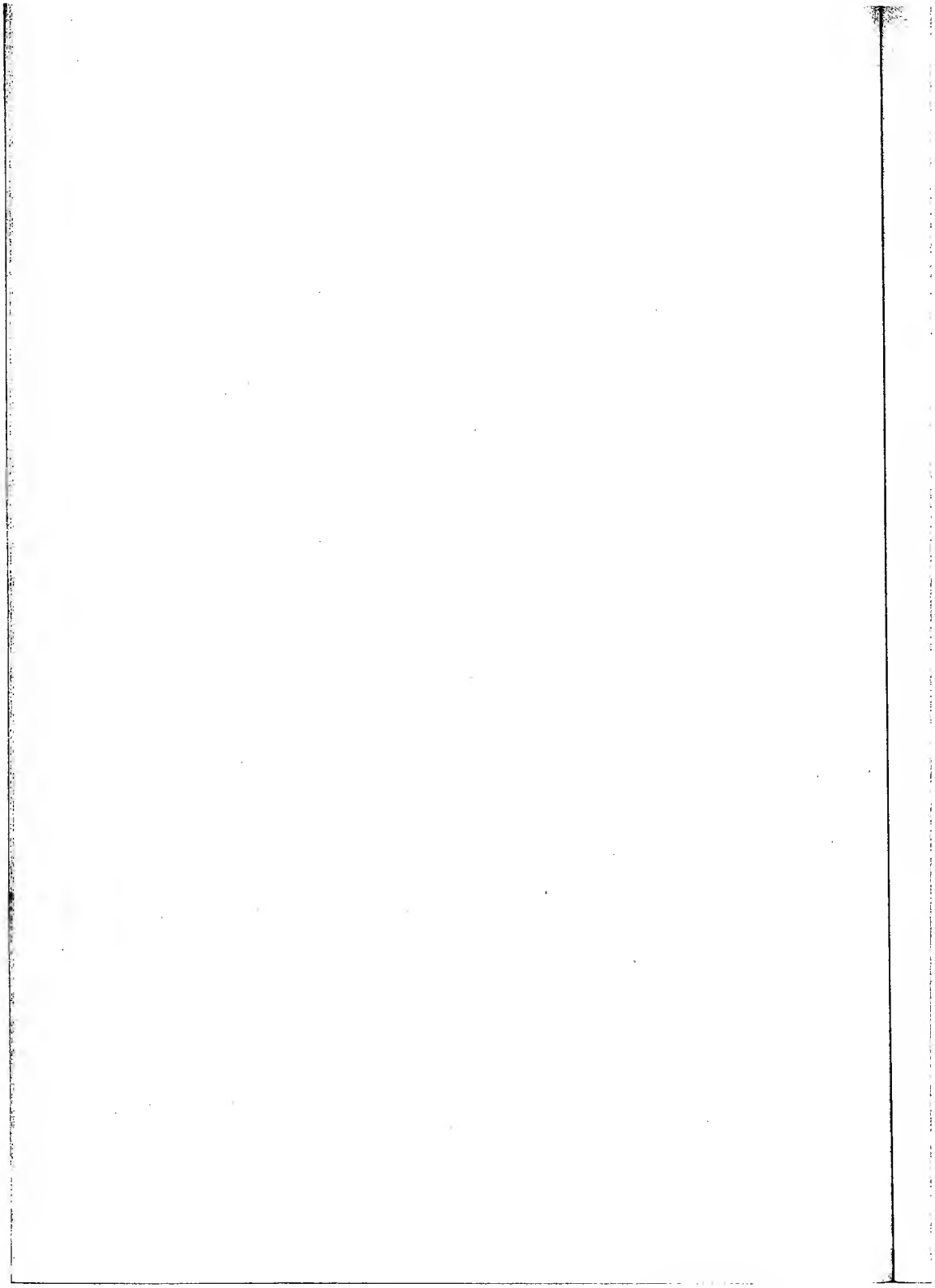
Graph 10
Source : Same as Graph 9.

on processing (except in the early Meiji era) — that is, raw materials (except silk) were imported, processed, and exported with value added. Since the late-1950s, of course, raw materials imported have been those required by heavy industry, thereby allowing exports of this sector to increase from about 50% of total in 1960 to over 80% at the time of the oil crisis in 1973.

As might be expected, not only has export composition changed, but also destination. High cost industrial goods and those of a high value-added nature naturally find bigger markets in high income countries. Similarly, the make-up of imports and their origin has also undergone change.

While there is some truth to the idea that Japan's economic growth has been export-led especially to bring the economy out of recession in the face of slack domestic demand, we must not forget strong domestic demand which has fueled economic activity so much since World War II. Furthermore, so reliant on raw material and fuel imports, Japan is inextricably tied in with the global economy which has to a large extent determined her path. Indeed, up to the 1960s further economic growth was periodically checked by foreign payments deficits. Since foreign reserves were decided by the trade balance, increases in exports and imports in effect determined the limit to growth. This was of crucial concern to Japan since her imports were raw materials for which there were practically no substitutes and hence she was forced to devalue the yen during the 1920s and 1930s in the face of balance of payments deficits. On the other hand, such deficits were sometimes covered by external factors such as the boom occasioned by World War I and the Korean War.

From the late-1960s, however, Japan has been accumulating foreign reserves and the above constraint has disappeared and hence the adoption of tight money policies since then has instead been mainly used to dampen the domestic economy to restore internal equilibrium.



CHAPTER 2
PRELIMINARY CONDITIONS AND THE MEIJI RESTORATION (-1868)

Seeds of Growth — the Edo Period

Prior to the Meiji Restoration in 1868, Japan had experienced some two hundred and fifty years of relative peace and isolation from the rest of the world. Nevertheless, the seeds of Japan's remarkably sustained long-term growth over the last hundred years are to be found in this period. Thus, one must first assess the economic inheritance of the Edo period (1603-1867) before proceeding to a discussion of the Meiji period itself.

The Tokugawa Shogunate (the office of the *Shogun*, the leading member of the Tokugawa family who ruled absolutely) had established the feudal system and divided the country into some 300 *han* (areas granted by the Shogunate to local lords called *daimyo*), a quarter of the agricultural product of which was directly administered by the Shogun. Both the Shogun and local daimyo were financed by taxes imposed on farmers and the strict class system of *samurai* (warriors), farmers, artisans, and merchants was firmly ingrained and a fundamental feature of society.

Between 1600 and 1720, the population increased roughly 2.5 times (an annual growth rate of 0.77%) which infers that agricultural output had to grow to feed the greater numbers. This was certainly the case and the land under cultivation increased accordingly. Accounting for this population increase were improvements in living environment and nutrition as well as a dramatic decline in the child (10 years and younger) death rate which dropped from 40% to 10% at the end of the Edo period according to recent research. Not only was the population increment engaged in agriculture but also increasingly in related

and traditional industries which grew during this time.

The main crop was, of course, rice, as it is today, with other crops such as barley, wheat, soya beans, vegetables, and tea. While other items, centering on mulberry leaves for silkworms, indigo, and cotton, were available, in the early Edo period the peasants only bought such necessary items as salt, medicine, and metal from outside of their villages. Almost all items in daily use were produced locally.

Occasioned by spreading commercialism and urbanization the feudal system of tenure slowly changed and rural area relationships were diversified. Production for a market instead of mere subsistence agriculture was becoming the norm with the agricultural population being absorbed into a money economy. Town merchants invested in land and they and the richer peasants rented farms to a new kind of tenant. A system of parasitic landlords taking a large proportion of agricultural output was well established by the end of the Edo period and landlords had considerable power prior to the Meiji period. More often than not, such landlords were fertilizer merchants, pawnbrokers, money lenders, and sake, soya sauce and bean paste makers.

By the beginning of the Meiji period, national markets were already established in salt, cotton, and cloth and some 20-25% of farmers are thought to have had other jobs concurrently as artisans, carpenters, plasterers, barrel makers, etc., and women, jobs in spinning and weaving, while others managed side businesses such as bars, eating places, confectionery shops, rapeseed oil outlets, and a variety of other shops. In the winter there was a seasonal migration from rural to urban areas which is still a feature of Japan today. Hence, a fair portion of the population was becoming engaged in commercial activity, especially in the urban areas which were steadily expanding in size and number.

The farm villages by the end of the Edo period had become included in a commodity economy with the progressive division of

labor and increasing trade between various parts of the country. This trade was facilitated by quite rapid transportation between eastern and western Japan, despite the policy of restricting the number of bridges over rivers, and also by coastal shipping, again despite the restriction on building large ships reflecting Japan's isolationist policy.

Parallel with this commercialism, urbanization, and division of labor was the spread of education. It is estimated that in 1868, some 43% of the male population and 10% of the female population were literate. In 1875, 54% of males and 19% of females had finished elementary school — extremely high percentages bearing in mind that in England in 1837 only one in four or five had been to school. Moreover, the broad penetration of Confucian, Buddhist, and simple practical ethics contributed to the creation of intellectual curiosity and many of the best bureaucrats of the late Edo period displayed an amazing flexibility in understanding Western civilization.

Along with all this expansion, the amount of money in circulation rose substantially and the active expansionary policies of the Shogunate stimulated the national economy. Nevertheless, the last years of the Edo period saw high inflation following Japan's reopening to the rest of the world which commenced with Commodore Perry's second visit in 1854.

While germination of modern economic growth can be considered to have occurred in the 1820s and 1830s as illustrated through expanded economic indexes, it was foreign pressure that encouraged and accelerated domestic changes already in progress and that ultimately led to Japan's propulsion into the modern world with the coming of the Meiji Restoration.

Into the Meiji Era

With pressure from the West, the Tokugawa government of the late Edo period had little choice but to accede to demands to

conclude treaties in 1858 if it did not want Japan to go the same way as China. Following the collapse of Japan's isolationist policy the central government and several daimyo administrations had to meet heavy debts mainly as a result of having to improve defense capabilities. Eventually, the central government recognized the need for administrative and economic policy changes and the last ten years or so of the Edo period saw a spurt of activity in the form of new dockyards, ironworks, and other plants on Western lines.

Coupled with the increasingly rapid breakdown of feudalism and encroaching commercialism, once Japan was exposed to the world market the old economic order founded on an isolationist policy could not be maintained. Some business activities declined with the landing of cheaper imports and there was a huge increase in the prices of items in foreign demand such as raw silk and green tea, while imports of good cheap cotton textiles led to a decline in the domestic production of such goods. Of note is the fact that, generally, it was not the large merchants who initially grasped the new opportunities opening, but rather local adventurous merchants, especially lower ranking members of the samurai class and the urban poor who were impoverished through the effects of political uncertainty and inflation.

Thus, with the inevitable advent of the Meiji Restoration in 1868 and despite some domestic dislocations, Japan entered the modern world inheriting certain institutions that could be well adapted to serving the country. Japan's social institutions, especially the family system emphasizing group cooperation, supported commercial efforts in a time of rapid social and economic change.

The first fourteen years of the Meiji period well illustrate the vitality and determination of the new government. In 1869, feudalism in the form of the four-tier class system was abolished and replaced with an aristocracy and commoner class and when prefectural boundaries were drawn in 1871, focusing on a centrally-controlled system instead of the han, the old financial

and administrative system disappeared forever. The years 1871 and 1872 saw the public being allowed to sell rice and court nobles and former warrior-bureaucrat families being permitted to manage agricultural, industrial and commercial businesses while farmers could engage in other trades. Thus, for the first time, there was a universal free choice of occupation and a general school system and military conscription were established as the basis of the modern state.

The reform of the land tax ensured fiscal revenue and for many years was the principal source. While the old land tax had only brought in ¥2 million in 1868 to the central government, the reformed tax in 1873 brought in over ¥60 million — more than 90% of the tax revenue and about 70% of fiscal revenue. Not until after the Sino-Japanese War of 1894-95 did land tax as a proportion of overall tax revenue fall below 50%. Thus, tax revenue from agriculture was clearly the basis of the government's capital accumulation and created the framework for a liberal economic system suitable to early capitalism. In the private sector, parasitic landlords used tenant rents to accumlate capital for other industries, especially the cotton spinning industry, and banking, railroads, and sea transportation to a lesser extent. Moreover, landlords played a key role in local capital accumulation, though not all was agrarian in origin.

Having already allowed freedom of choice in occupation and securing a firm tax base through land tax reform, the government deliberately decided to embark upon industrialization through its *Shokusan Kogyo* (develop industry and promote enterprise) policy which centered upon the consolidation of the banking system into a national one, the promotion of railroad and postal networks, the setting up of model factories to be sold to the private sector at a later date, and lastly, the lending of equipment and funds. The establishment of public sector factories under this policy and their sale to the private sector was important since this was how many industries were introduced into Japan. Such industries included silk reeling, coal, cement, and glass. While this policy promoted the introduction of much needed technology and

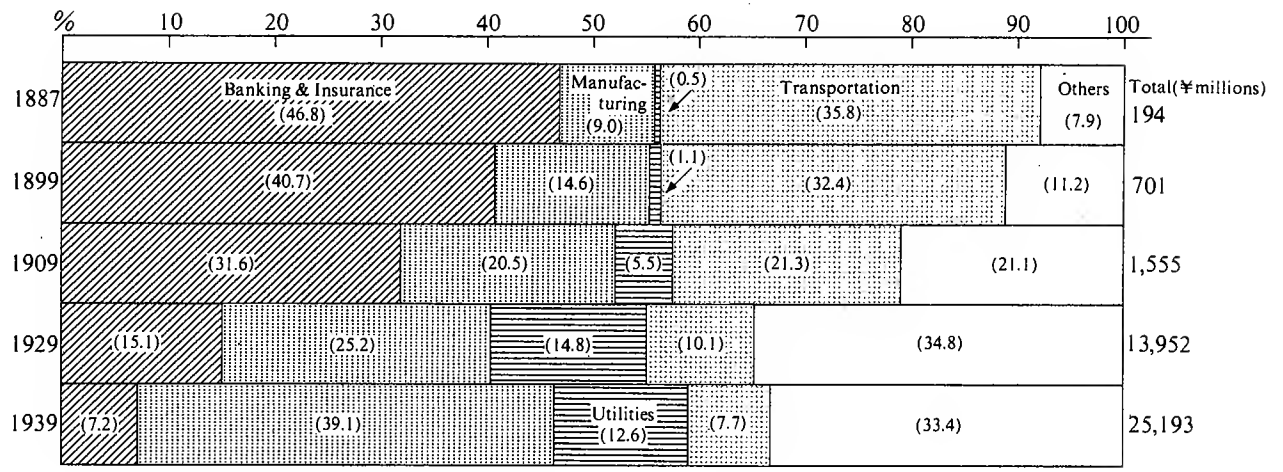
later laid the basis for Japan's shipbuilding and steel industries, it alone did not give birth to modern industry.

It is interesting to note that industries were gradually introduced in a certain order — banking first (from 1876 to 1880), which eventually allowed a national currency to be issued and helped integrate the national market and channel savings into industry. However, at this time the Satsuma Rebellion took place — the last death throes of the old feudal order — and Finance Minister Masayoshi Matsukata enforced a harsh deflation in the mid-1880s which, though resulting in a farming crisis and many farmers having to sell land, did expand the national commodity market. With the establishment of the Bank of Japan in 1882 and the printing of its currency, banking entered a new unified stage.

Sea transportation (1878-1880) and railroads (1881-1890) developed next, the latter posting 27.4% annual track expansion which greatly facilitated the further development of industries and integration of national markets. Following transportation came coal mining and in the 1890s Japan actually exported around 50% of her production. Many of the large zaibatsu such as Mitsui, Mitsubishi, and Sumitomo founded their fortunes on coal. Fourth to develop and posting 22.6% annual growth on a capital stock basis from 1883-1890 was the textile industry, especially silk reeling which adapted foreign technology to rural production, and also cotton spinning which was large in scale and urban in nature. Both became the biggest exporters and were crucial to Meiji industrialization.

The passing of a new Commercial Code in 1890 confirmed the legal identity of the corporation which significantly supported the just mentioned sequential expansion of industries beginning with banking and later railroads and mining. As Graph 11 shows, most capital in 1887, and this is true for the decade and the 1890s, was in banking and finance and transportation. These continued in significance though manufacturing increased in relative importance, as did utilities, at the turn of the century. Nevertheless, manufacturing never accounted for over 30% of

Paid-in Capital (Total: 100)



Graph 11
Source : Same as Graph 9.

paid-in capital until after 1934.

Since Japan was a latecomer to economic development, she had to reorganize the organization of the firm, transportation and communications first — the framework first and the content later — and since the relative price of labor was lower than that of imported capital-intensive technology, the textile (spinning and weaving), flour milling, sugar refining and beer making industries adapted such technology to more effectively utilize labor. Additionally, because Japan was forced to open her doors to the outside world and obliged to sign treaties not to impose any tariffs in the early Meiji period, the resulting competition led to a better allocation of resources. With the foreign exchange earned from large raw silk exports Japan could afford to later import the required materials and equipment for industrialization.

CHAPTER 3
DEVELOPMENTS UP TO WORLD WAR I (1868-1914)

Business Leaders

The previous chapter indicated various factors such as the relative high level of general education, an accumulation of capital, and a decision on the part of the government to promote modernization, which combined together led to the start of industrialization. However, if we have to pinpoint any one particular factor perhaps it would have to be the entrepreneurial spirit, for without this and the acceptance by society of the capitalistic concepts it implies, no amount of industrialization by the government would have been successful.

Though a pool of capital and a general high level of education coupled with progressive ethics formed a sound springboard, all still depended on the existence of "businessmen". A few of the initial business leaders were intellectuals from the former warrior-bureaucrat class followed by rich farmers and merchants. It seems that many of the traditional merchants were rather slow to absorb the new business ideas and methods, though they soon occupied center stage from the viewpoint of supplying capital. Men like Eiichi Shibusawa who headed the state-managed Daiichi Bank and promoted and coordinated new projects, mainly in Tokyo, and Tomoatsu Godai in the Osaka area who advised the Meiji government, are perhaps representative of the warrior-bureaucrat turned entrepreneur. Such pioneers helped establish many industries with government assistance, together with a small adventurous elite from traditional merchant and landlord backgrounds.

Naturally, the accumulation of capital is a prerequisite for industrialization and as mentioned previously banking was the

first activity to take off, with most banks being supported and managed by merchants, particularly after the 1883 revision of banking regulations nationwide. Warrior-bureaucrats came to be administrators such as Takeo Yamanobe of Osaka Spinning who was a pioneer of this industry having worked in the Lancashire mills in England, with management being in the hands of merchants who supplied the funds. Local capitalistic-oriented merchants and also landlords throughout the country had accumulated substantial savings and actively supplied funds for the founding of banks, railroads, silk reeling, and cotton spinning purely from motivations of profit. Nevertheless, in many cases they still maintained ties with their traditional merchant and landlord activities, and, in fact, some even entered the modern sector to better facilitate the progress of such traditional occupations. The introduction of the corporate form allowed such men to maximize profits.

This period also saw the increasing integration of the zaibatsu groups built on family fortunes in the traditional sector such as Mitsubishi, founded by former warrior-bureaucrat Yataro Iwasaki, which was first a shipping firm that expanded under protection from the government. The Mitsui family, representative merchants from the Edo period, was active in a wide variety of concerns such as banking, insurance, cotton spinning, sugar, and machinery.

Thus, the Meiji era was essentially a period of individual capitalists with still strong ties to the traditional industry sector though signs of a shift to professional management were evident. The history of Oji Paper is a case in point. Founded by former warrior-bureaucrat Shibusawa, it prospered under technician Heizaburo Ohkawa who in turn handed over control to Raita Fujiyama of Mitsui following a capital increase in 1896. The ongoing contrast between traditional and modern, as today, is seen in sake-making and beer, with the former being carried out by small traditional firms and the latter by a few large ones such as Kirin and a formerly government-sponsored brewery in Hokkaido named Sapporo which is today one of Japan's major breweries.

Coexistence of Modern and Traditional Sectors

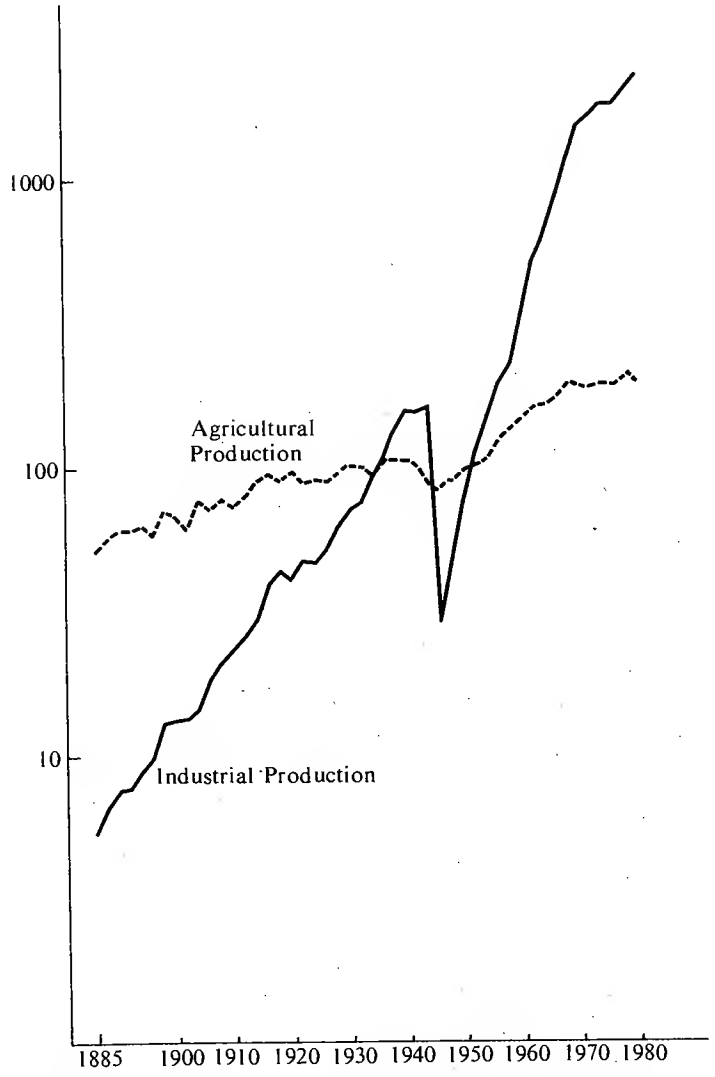
This dual feature of the coexistence of traditional and modern industry is still very much evident in Japan today. Their complementary nature, especially in the early days should be noted, for while traditional industries were directed to domestic consumption and exports thereby earning foreign exchange for the further expansion of the modern sector, the modern industries were engaged in railroads, shipping, mining, and the production of intermediate goods and items for public works such as steel and cement. This situation continued more or less until the 1950s with little competition between the two.

As seen in Graph 12, agricultural production in the Meiji period was overwhelming and continued to outweigh industrial production until 1935. Moreover, the number of farms and services managed according to capitalistic principles was small even in 1952. After some ninety years since the Meiji Restoration, only basic industries, primarily mining and manufacturing, and utilities and transport, were dominated by capitalistic production.

Though industrial production grew an average 4.8% annually from 1879 to 1918 compared with 1.7% for agricultural production, 2.6% for GDP(gross domestic product), and a 1% population increase, it is estimated that traditional cottage industries accounted for well over half of industrial income until at least 1914 and one-third until 1930, in sharp contrast to the experience of Europe. Not only did traditional industries prosper but they expanded and even transformed some modern introduced industries such as silk reeling into traditional ones.

In 1868, agricultural items accounted for 84% (silk thread 40.2%, silkworm egg cards 21.8%, and green tea 21.5%) of exports. Indeed, traditional industries first expanded through strong export demand for such items as silk thread and cotton material and later ceramics, umbrellas, etc. Some examples of the growing interdependence of traditional and modern industries that demonstrate

Industrial and Agricultural Production Indexes (1934–36 = 100)



Graph 12
Source : Ohkawa and others, "Patterns".

the duality of Japan's production are to be seen in the supply of cheap uniform thread by modern firms to small-scale local weavers and bicycle parts from small workshops to modern assemblers.

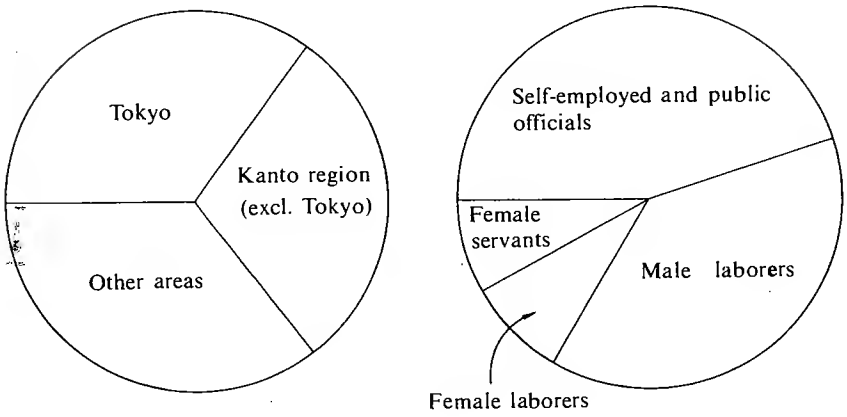
Hence, traditional industry not only supplied goods for domestic consumption and export but also goods of an intermediate nature. Additionally, it was a market for modern industry to some extent. As already seen, the first modern industry to develop was banking, and until the end of World War I, its most important customers were to be found in local traditional industries. Thus, while banking was a modern industry introduced from overseas, it supported traditional industry which, in turn, through its wholesaling system helped create some other modern industries. This balanced interdependence continued until the 1920s when the modern sector began to dominate.

Labor and Wages

Another aspect of this duality and already touched upon was the dual occupation among farmers. While modern capitalistic production obtained labor from the agricultural sector, it was small in terms of numbers. Until the 1920s, except for the boom period of World War I, farmers sought side jobs as piece workers and middlemen in the traditional sector to supplement their farming income. Naturally, the spread of regional and eventually national commodity and money markets enlarged the opportunities for secondary employment and a substantial number gradually left agriculture for commerce and industry while others sought work in the expanding urban areas.

Graph 13 illustrates this growing migration. Tokyo in 1908 had a working population of just over 700,000, of which only 35% were native Tokyoites. Tokyo at this time was a city of small merchants and manufacturers mostly in the traditional sector which generally absorbed the rural migrants. On the farms, wages for females fixed the level of agricultural wages, and here there were big differences from region to region. With free choice of

Employment in Tokyo by Area of Origin (1908)
Kanto=Tokyo and prefectures surrounding Tokyo



Graph 13
Source : Tokyo City "Population Census".

occupation and expanding opportunities many sought a better life and higher wages in the growing urban areas, but here again there were wide wage differentials — until the end of the Meiji era wages for carpenters in Tokyo were double those in Niigata, a northern prefecture.

Only with the creation of a national economy and a more active labor mobility facilitated by the progress of railroads did a labor market really evolve and wage differentials narrow. Though wage differentials expanded after World War I, this period saw the beginnings of the lifelong employment and seniority systems initially devised by companies to retain labor during times of shortage.

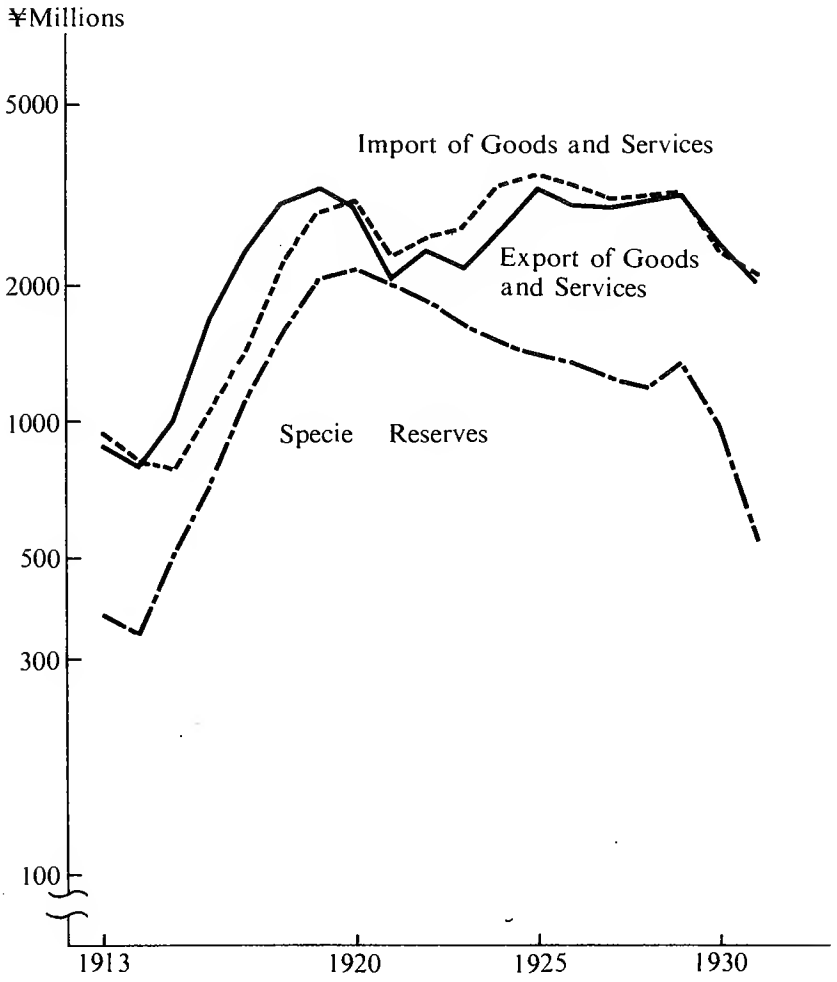
CHAPTER 4
WORLD WAR I AND THE INTERWAR PERIOD (1914–1939)

The World War I Boom and Panic of 1920

While modern industries expanded rapidly during the Meiji period, they did not account for either a great proportion of output or working population. In fact, in 1915 they absorbed less than 10% of the working population as shown in Graph 9. Nevertheless, by the outbreak of World War I and despite the recession that started in 1907 and the costs of the Russo-Japanese War, many industries were firmly established — silk reeling was number one worldwide and cotton was becoming an export industry; the government supported shipping companies and had also established an iron and steel plant; and hydroelectric power had also been born.

The economies of many nations, including Japan's, were transformed as a result of World War I. One glance at prewar and postwar export, import, and reserve figures in Graph 14 illustrates this point in Japan's case. In 1914, Japan had a balance of payments crisis and was a debtor nation of ¥1.1 billion but in 1920 was a creditor of ¥2.7 billion. With Europe at war Japan's opportunities in foreign markets expanded tremendously and domestic production could not keep up with soaring exports which quadrupled from ¥799 million in 1914 to ¥3,243 million in 1919 (see Graph 14). Industries that marked particular growth included shipping, shipbuilding, iron and steel, cotton spinning, silk reeling, textiles, and electric power — the last seeing its generating capacity double from 1,791 million kw. in 1914 to 4,193 million kw. in 1919 (see Graph 15). Overall industrial production rose about 3.3 times in nominal terms and employment in mining and manufacturing increased 43%.

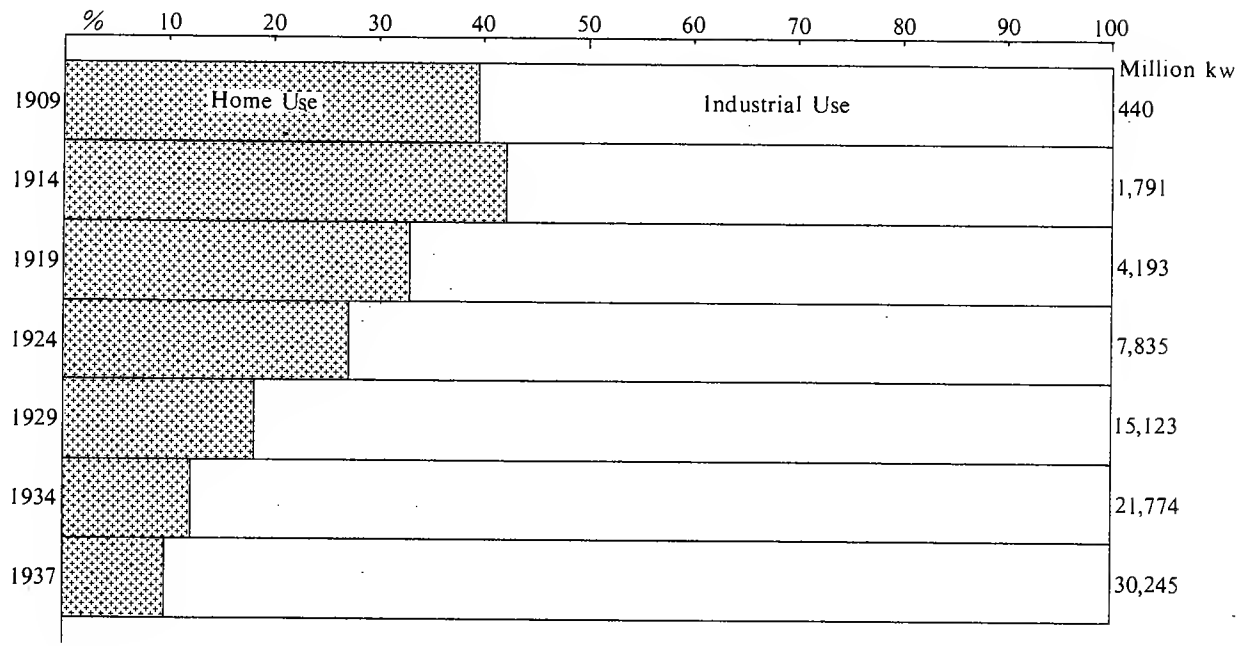
Exports, Imports, and Specie Reserves—World War I and After



Graph 14

Sources: Ohkawa and others, "Patterns"; and Ministry of Finance, "Okurasho Hyakunen Shi-Bessatsu" (One Hundred Year History of the Ministry of Finance-Appendix).

Electricity Generated and Consumption



Graph 15

Source : Ryoshin Minami, "Tetsudo to Denryoku" (Railroad and Electric Power) (Long-term Economic Statistics), Toyo Keizai Shimpo Sha.

In this situation, income as well as consumption demand rose but coupled with the supply and demand gap this led to price hikes, which, in turn, meant higher corporate profits with no corresponding rise in wages. Thus, the boom favored capital income which was invested in almost every industry, especially the heavy and chemical industries. Occasioned by the spread of electric power, the share of these industries to total industrial output rose from 26.7% in 1914 to 32.8% in 1920, reflecting the cutoff of imports, but there was a postwar decline to 25.8% in 1925 following the resumption of trade. Though plans for capacity expansion were made in the 1915-16 boom, their fulfillment came postwar. Furthermore, industrial growth in the 1915-20 period was uneven as evidenced by the machinery industry with 28% growth and 2% for the "other industries" category. The fastest-growing industries in World War I were secondary industries while tertiary industries, including the service sector, lagged.

As might be expected, employment opportunities increased especially for a working class in secondary industries which was to have far-reaching political implications postwar. With a working class increasingly establishing a base in urban areas, policy leaning just toward agriculture was no longer feasible. This, coupled with the widening income disparities between low-paid workers and farmers and the high income of merchants and industrialists resulted in the nationwide Rice Riots of 1918.

Overall, the production increase, stagnant domestic consumption, widening income disparities, birth of a working class, and heavy and chemical industrialization were the main factors that set Japan's course.

The World War I boom ended with the Panic of 1920 — wholesale prices fell 41% and silk and cotton yarn prices fell 65% and 73%, respectively — which was followed by the Ishii Panic of 1922, the Great Kanto Earthquake and debt moratorium of 1923, the deflation of 1925, the Financial Panic of 1927 and finally, worst of all, extremely stringent domestic policies accompanying the Gold Standard Embargo Panic of 1930-31 and the global crisis

of the early-1930s. Nevertheless, the structural changes that had started during the war continued and Japan's economy grew fast by international comparison.

Urbanization and Public Investment in the 1920s

Despite lack of effective domestic demand and global stagnation, Japan achieved high growth through heavy construction investment compared with other countries. Such investment in the 1920s was especially supported by government investment centering on roads, bridges, and other public works, which increased from ¥138 million in 1915 to over ¥600 million annually from 1923 to 1930. In the private sector, plant and equipment investment was 10.7% in the first half of the 1920s and 7.4% in the latter, mainly directed to electric power-related construction, railroads and factories, and stores. In this period, metal and machinery industries absorbed modern developments to improve their technology until they could become competitive with imports.

Reflecting increasing urbanization, the role of local government in infrastructure investment greatly expanded, particularly so after the Great Kanto Earthquake in 1923. In the 1910-14 period central government fiscal outlays accounted for 63.9% of total central and local government expenditure compared with 36.1% for local governments. By the 1925-29 period central and local government outlays were almost equal at 49.2% and 50.8%, respectively, but in the 1930-34 period local government outlays came out at 53.4%. Thus, while central government fiscal policy was severe partly due to the world trend towards a return to the gold standard, local governments were expansionary because of the increase in urban population. However, high public spending to support overall demand combined with increased imports after the Great Kanto Earthquake was only possible by drawing upon the reserves accumulated during World War I which had stood at ¥2,045 million in 1919 but had been halved to ¥960 million by 1930.

Developments After the Great Depression

Hoping to restructure the Japanese economy, Finance Minister Inoue guided the nation's return to a gold standard in 1930 and introduced tight money and rationalization policies. In hindsight, this might be said to be bad timing, coinciding as it more or less did with the worldwide depression. Prices dropped sharply, there was a migration back to the countryside, and bankruptcies were widespread. Rural areas were worst hit and farmers and peasants could not afford daily necessities — primary school children had to go to school without a lunch box. Into Japan's worst crisis stepped Finance Minister Takahashi who left the gold standard, devalued the yen gradually by 40% by the end of 1932, lowered interest rates, and issued deficit financing bonds to stimulate the economy. Takahashi's policy founded on the government control of the monetary system allowed domestic fiscal expansion and the promotion of exports as a result of the yen's depreciation. Domestically, central and local government budgetary outlays focused on farm relief, a departure from the policy in the 1920s which emphasized urban areas, and also military-related industries though these were not to see their largest increases until 1937. Takahashi's policy might be appreciated as an example of a successful experiment in Keynesian-type fiscal policy. But his efforts to suppress the expansion of military expenses to a reasonable level provoked sharp antipathy from young military officers. Assassinated in the February 26 Incident of 1936, Takahashi's death was a turning point ushering in the beginnings of a catastrophe for Japan.

Slowly private investment rose, though in 1936 it only accounted for less than 12% of GNP, further indicating the greater role fiscal spending and exports had for expansion in the 1930s. The eventual 60% devaluation of the yen stimulated corporate desire to export which coincided with the increased competitiveness of Japanese industry as a result of rationalization efforts, especially in the cotton industry. The textile industry continued to be Japan's main export industry accounting for 49.9%, 52.7%, and 54.8% of all exports in 1910, 1920, and 1930,

respectively (though this dropped to 29% in 1940), and it, together with electricity and gas, and transportation, saw the largest increases in investment. Military-related industrial expansion which utilized existing excess production capacity from the depression and investments in this area did not become really apparent until 1936-37.

Nevertheless, this does not mean that production by the heavy and chemical industries was low in the early 1930s — their share of total production increased from 36% in 1930 to 49% in 1935 and overtook light industry in 1936 (see Graph 16), demand being partly in reaction to the late-1920s when it was held down, and technological progress allowing the manufacture of goods previously imported as well as the development of new goods such as aluminum, synthetic fibers, automobiles, etc.

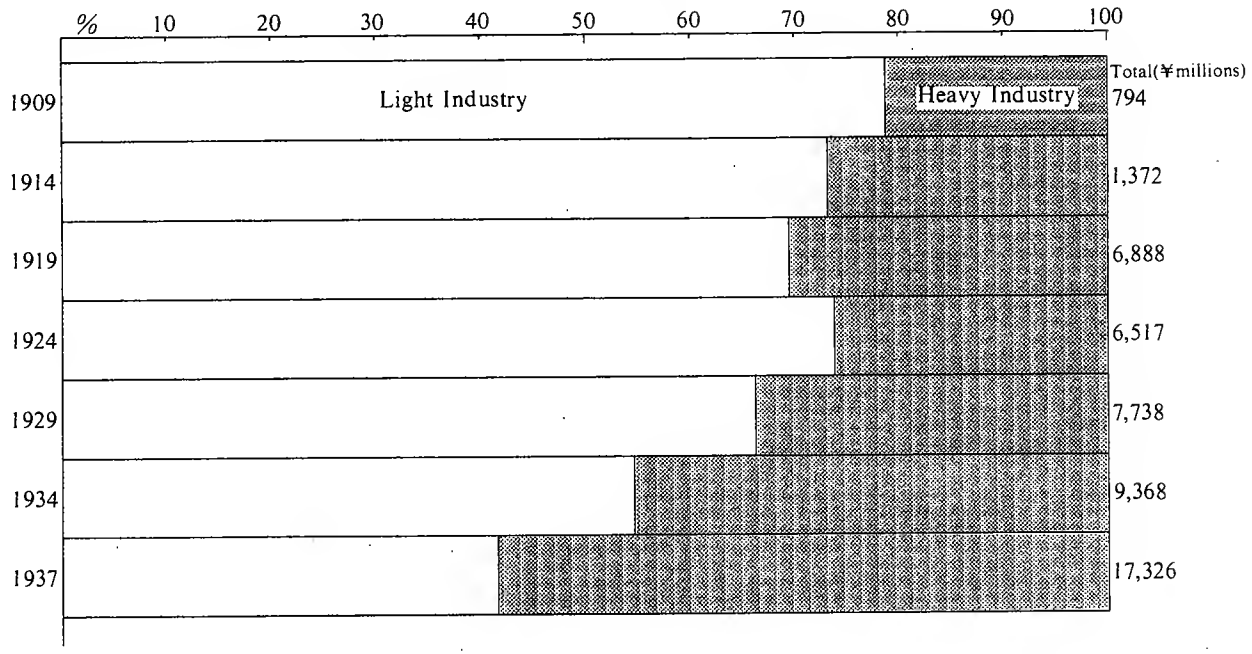
These new items heralded in the new zaibatsu like Nissan, Japan Nitrogen, Toyota, and Showa Denko, which occasioned shifts in monopoly structure with a decline in the relative power of the old zaibatsu. Nor was this the only structural change, for income distribution was further equalized somewhat and imports increasingly came to be of a raw materials nature following the domestic production of many previously imported foreign items. In fact, from 1926 to 1937, raw materials accounted for an overwhelming 57.3% annually of all imports, and of this, cotton occupied an average annual 24.4%.

Electric Power and Chemical and Heavy Industrialization

Looking at the situation in more detail we see that electricity generated increased from 4,193 million kw. in 1919 to 15,123 million kw. in 1929, and 34,144 million kw. in 1939 (see Graph 15), mainly reflecting technological progress and demand growth. The widespread penetration of electricity transformed the production methods of many consumer goods in the traditional sector.

In 1909, the percentage of factories utilizing electricity as the

Progress of Chemical and Heavy Industrialization (Production)



Graph 16

Source: Ministry of International Trade and Industry, "Kogyo Tokei Goju-nen Shi" (A 50 year History of Industrial Statistics).

source of power was only 13%, but quickly rose to 30.1% in 1914, 58.6% in 1919, and 86.8% in 1930. By industry, metals, machinery and tools, and chemicals rose from 46.9%, 61.8%, and 27.4% in 1914 to 92.3%, 91.8%, and 92.1%, respectively, in 1930. Even the use of electricity in spinning and weaving, orginally cottage industries in the traditional sector, jumped from 8.6% in 1909 to 85% in 1930, and workshops with only 5-9 people posted a high 84.5%, evidencing the impact of electricity on this sector. Concrete examples are the changes from hand-operated looms to power-driven ones and from hand-turned to power lathes. This change also meant a shift to factory production, although in many cases small scale, instead of cottage industries.

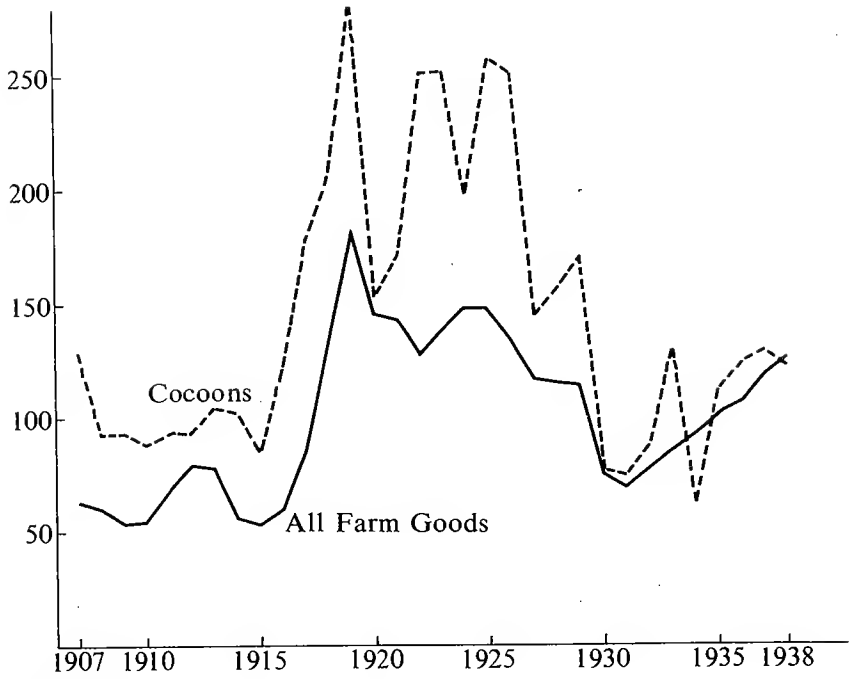
Electrification greatly assisted the progress of industries dependent upon electricity such as the electrochemical and some refining industries as well as the soda, carbide, and ammonium sulfate industries in the chemical sector. Excess power from local hydroelectric power stations came to be utilized by electrochemical, electric furnace steel, and special steel plants and was thus a major force behind chemical and heavy industrialization, which helped create industrial belts with a permanent working class and later contributed to the spread of the lifelong employment and seniority systems designed to keep labor.

Dual Structure

Reflecting various factors such as government policy emphasizing assistance to the urban working population in order to quieten the growing labor movements together with the worldwide agrarian depession, Japanese agriculture experienced a chronic crisis and stagnated as evidenced by prices declining one-third between World War I and the late-1920s (refer to Graph 17) and farm income the same by 1931. The index of silk cocoon prices dropped from a high of 284.1 in 1919 to 75.5 in 1931.

In this situation of excess labor on the land, there was a migration to urban areas where industrial female wages fell

Farm Prices (1934-36=100)



Graph 17
Source : Ohkawa and others, "Bukka".

substantially during the worldwide depression, mirroring high turnover and drops in farm income. Male industrial wages, on the other hand, diverged from being relatively tied to farm wages due to fewer entrants and lengthening periods of employment and the formation of a core of skilled labor. Hence, this sector of the labor market was loosening its ties with farming.

While the overall labor force expanded, employment opportunities in the modern sector did not, reflecting rationalization and labor-saving moves and it was the tertiary

sector which absorbed the increase, especially in traditional industries in the wholesale, retail, and service areas and also in transport and public utilities as a consequence of the increase in electricity generation and railroads. Thus, after World War I and especially from 1924, a dual structure in the form of big wage differentials between modern and traditional industries occurred according to scale, industry, and occupation.

Within industry, wage differentials by years of service — seniority — appeared in heavy industry while textile companies and small firms employed unskilled labor of short duration at low pay. Large companies retained skilled labor and employed unskilled workers when necessary and, therefore, a pool of temporary workers emerged.

Mirroring the labor situation, the phenomenon of farming out, or subcontracting, expanded rapidly after 1931 and continues to be a feature of Japan's economy today. While excess labor conditions are mainly responsible for the forming of the dual structure, the increasing strength of monopoly in the 1920s also played a role for, if an industry is monopolistic or oligopolistic, higher profits and hence wages are possible over an extended period. Moreover, the larger firms became more capital intensive than labor intensive with ensuing expanding productivity differentials especially apparent in the electricity and chemical industries which further fueled the formation of the dual structure.

Monopoly and Oligopoly

The World War I boom and following recessions saw the intensification of zaibatsu monopoly and financial power mainly in tertiary industries such as banking, trust companies, insurance, commerce, and mining, though an expansionary monetary policy and low interest rates saw a weakening of such power in the 1930s and greater oligopolistic competition.

The concentration of financial capital by such groups as

Mitsui, Mitsubishi, Sumitomo, and Yasuda allowed them to acquire the stock of other companies and also participate in management. Within the groups the various banks merged, especially after the Financial Panic of 1927, giving the group bank further power over industry — in 1928, Mitsui, Mitsubishi, Sumitomo, and Yasuda zaibatsu-related companies accounted for an estimated 15.2% of total paid-up social capital. Focusing on tertiary activities such as banking and distribution, the zaibatsu had an influence exceeding their share of capital, which continued until the early-1930s when the heavy and chemical industries made great strides partly aided by the cartels formed in the wake of the Great Depression.

CHAPTER 5
WORLD WAR II AND POSTWAR REFORM AND RECONSTRUCTION (1939-1951)

World War II

As mentioned in the previous chapter, heavy and chemical industries developed, but investments in munitions-related industries did not really expand until 1936-37 and the beginning of war between Japan and China. At this time the influence of the military was on the ascendancy and Japan was flexing her muscles as the latest member in the club of industrialized nations, which had hitherto been Western.

In 1936, the government was unable to reduce the armaments expansion plans of the military and the following year saw the national budget increasing about 40%. Moreover, the Army devised an ambitious Five-year Plan for Key Industries which gave priority to the steel, coal, and liquid fuel (including synthetic oil) industries. Under this plan, huge fixed capital investments were required. The expansion of military expenses and the drafting of these production capacity expansion targets coincided with a sharp increase in Japan's imports and saw the trade deficit rising to ¥608 million in 1937 compared with an average deficit of ¥53.5 million annually for the six years 1931-36 (1936 showed a small net export figure). The serious balance of payments situation led to direct government control of the economy and "The Three Principles" of Finance Minister Kaya and Industry Minister Yoshino. These principles sought balance of payments equilibrium, expansion of production capacity in certain key industries, and the control of the supply and demand of raw materials, the last only being achieved through squeezing and regulating private sector consumption since the amount of imports depended on foreign exchange earnings from exports. The war with China coincided with this situation and lasted longer than expected and the burden

of expenses to maintain a large military presence in China severely aggravated the Japanese economy.

When the Bank of Japan's gold reserves were depleted, it bought up gold objects held by the private sector and the people and also cashed foreign bonds and stocks in order to fund imports centering on raw materials such as oil, copper, aluminum, etc., which were priority allocated to military demand, then to the steel, coal, petroleum and chemical industries — precisely the ones that became Japan's export industries postwar.

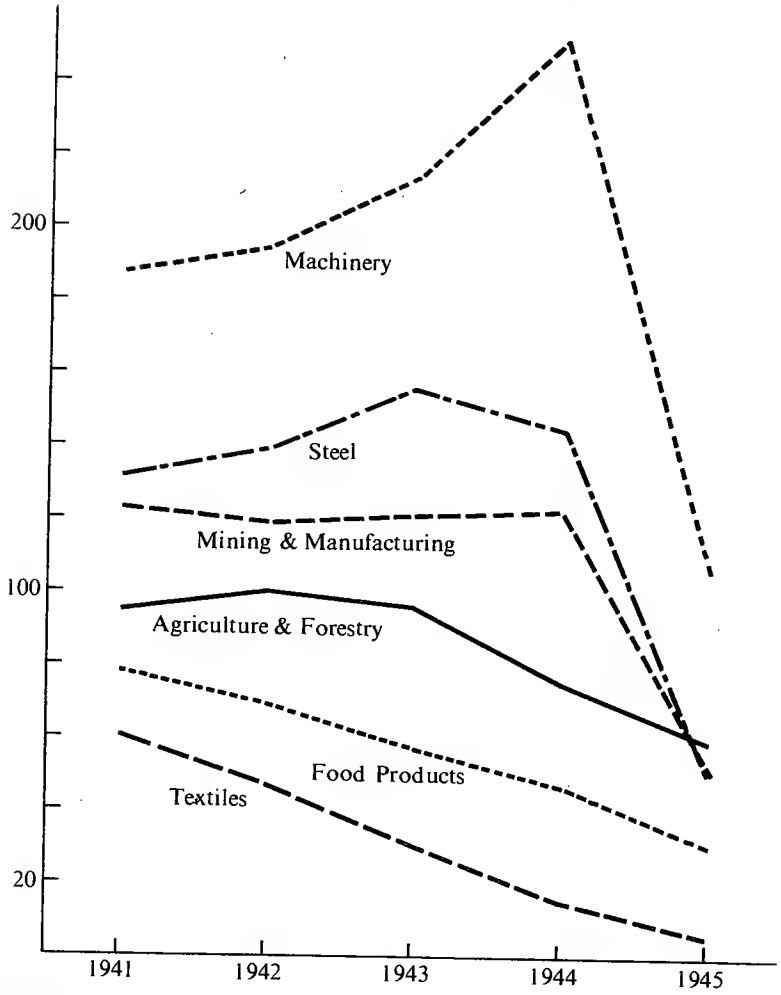
With skyrocketing market prices the situation worsened in 1939 and all prices and wages were controlled by the government as well as almost all items being rationed. Private consumption was thus drastically curtailed at the expense of the population at large and a black market came into existence since government-controlled prices were generally below supply and demand equilibrium. To counteract this an economic police force was created and the nation's total economy was directed toward pursuing the war effort.

Japan's policy at this time tended toward an alliance with Germany and Italy and her relations with the United States and the United Kingdom worsened. With the U.S. embargo on gasoline and related products in July 1941, Japan was forced into a corner, having to choose between toeing the U.S. line or making a fight of it. Since imperialistic ambitions were aflame war was the only course and the crucial factor now became shipping capacity instead of the balance of payments. In the first six months of the Pacific War, Japan occupied a far-flung area from Burma to the Solomon Islands from which she could get the raw materials she needed. However, shipping capacity dropped sharply from the last half of 1943 and a year later shipping routes in Southeast Asia were blocked by the Allies.

Steel production began to decline from 1943, too, and textiles and food products (see Graph 18) posted even bigger drops reflecting the suppression of private consumption. In fact, by the

Production Indexes during World War II

(1937=100)



Graph 18

Sources : Official Indexes of Ministry of International Trade and Industry and Ministry of Agriculture, Forestry and Fisheries.

outbreak of the Pacific War, the production of such goods to meet private demand had fallen to 60% of the levels in the mid-1930s.

Agriculture collapsed as evidenced by a steady decline from an index of 100 in 1937 to 76.2 and 59.3 in 1944 and 1945, respectively (see Graph 18), and the government was hard pressed to find enough food to even guarantee a subsistence existence. This, combined with the carpet bombing of major cities, demoralized the general population and Japan was already defeated long before the atomic bombing of Hiroshima and Nagasaki.

The war itself cost Japan about three million dead, and the complete loss of ten years accumulation of national assets up to 1945, which took her until the early-1950s to make up. Nevertheless, the wartime emphasis on heavy and chemical industries and the disregard of light industry meant Japan had much more capacity for the former than the latter in the postwar period and it was this very fact that decided the direction of her subsequent growth. Furthermore, know-how obtained during the war was turned to other uses as witnessed by machine gun manufacturers becoming sewing machine makers and makers of optical goods for military purposes changing to cameras.

The system of farming out work, especially the production of parts, was common in the war years as a way to increase production. Links thus formed between large companies and small ones have continued and prospered to this day and are a feature unique to Japan where small enterprises still account for a large proportion of production. Likewise, relationships in the area of finance, stemming from Bank of Japan support given to financial institutions established during the war to channel funds where they were needed, reemerged postwar as influential groups.

Furthermore, wartime controls cemented the postwar bureaucratic relationships between commercial banks and the Bank of Japan and also between industry and the Commerce and Industry Ministry and other ministries and these became the

predecessor of the postwar administrative guidance relationship between the government and industry.

Although the lifelong employment and seniority systems appeared after World War I, they only became a nationwide phenomena following the imposition of wage controls in 1940-41. Similarly, the pattern of postwar labor-management relations with unions based on individual companies rather than trade unions with members from a large number of companies was born in the war when Patriotic Industrial Associations were established in each firm with the participation of labor and management.

Other areas which developed during the war include welfare as evidenced by the passing of several laws related to health and insurance, and which overall formed the basis for Japan's postwar social security system. While agriculture saw no development and, in fact, collapsed, it was this that permitted the smooth introduction of land reform under the Occupation.

Thus, institutions and industries developed and promoted during the hostilities were inherited by the postwar period, dramatically changing the lifestyle of the people.

Reform

Asked for their worst experience, many Japanese will reply "1945 and the immediate postwar years". The misery of utter defeat is deeply ingrained upon the Japanese consciousness. From an economic viewpoint this defeat translated into unemployment, the specter of starvation, and rampant inflation as evidenced by CPI soaring 40% every three months in 1947 and 15% in 1948. With regard to the first problem — unemployment — those who could returned to the land and in 1947 agriculture had a labor force of 18 million, 4 million more than before the war. Still, there were some 10 million with no particular jobs, mainly comprising demobilized troops and those thrown out of jobs following the halt of military production. However, unemployment on a large

scale did not become apparent because unless they had savings to fall back upon the unemployed faced starvation. Thus they undertook and did anything to make a living, be it the black market or street stalls.

Accompanying the grave shortage of food accentuated by a very poor rice crop in 1945 was an energy shortage mirroring coal output dropping from 3-4 million tons monthly to a million in the fall of the same year. Neither problem began to see any solution until 1947 and it was not until 1949 and the Dodge Plan that inflation could be curbed.

The Occupation authorities quickly implemented demilitarization and democratization reforms in the areas of the zaibatsu, land, and labor. They set about dissolving the zaibatsu and then enacted the Anti-Monopoly Law in 1947 which became a fundamental principle of Japan's postwar economy. Another law, the Elimination of Excessive Concentration of Economic Power Law, was passed in 1947 and under it some 325 firms became subject to partitioning, of which only eighteen were split due to the expansion of the Cold War and a subsequent relaxation on the part of the Occupation authorities. Interestingly, concentration ratios for most industries were lower at the end of the war than at the beginning, thus promoting intense competition that became a characteristic of postwar Japan, and which, in turn, led to economic growth.

Land reform decreased the proportion of total agricultural land utilized by tenant farmers from about 50% to 10%, and, with new technology, resulted in higher productivity, gradual income increases, and a larger domestic market.

At the same time the number of workers in labor unions increased from about zero in 1945 to almost 60% in 1948-49 — very high compared with the international average of 30%. Of course, most belonged to unions organized on company lines though the General Council of Trade Unions of Japan with membership from various industries was formed at this time. Collective bargaining

power resulted in higher wages, better working conditions, and the acceptance by management of the lifelong employment and seniority systems. Both sides — labor and management — came to recognize that prolonged strike action would be detrimental to both.

Reconstruction

Immediately after the war, the Pauley Reparations Mission came to Japan and soon drafted proposals which if had been carried out to the full would have put Japan back to the level of 1926-30 — that they were not fully implemented will be explained shortly.

In addition to this burden were indemnities totaling ¥96 billion from the Japanese government to industry and individuals designed to offset losses incurred by them during wartime armaments production but which were stopped by the Occupation authorities. As a result, many armaments-related companies and financial institutions that had supplied them with funds were liquidated, re-established, and merged, though they remained very weak until 1948-49.

In the circumstances, the Reconstruction Bank was established to supply funds which were obtained by the issue of bonds accepted by the Bank of Japan. Finance Minister Ishibashi, a "Keynesian", believed Japan's problem was insufficient production, not inflation, and he increased fiscal spending, directing funds through the Reconstruction Bank to under-utilized industrial companies to revive production. At the same time, the priority production system aimed at rehabilitating industry through oil imports came into being. Coal was Japan's main source of energy but production had fallen to 21 million tons, less than 40% of wartime production, and little remained for industrial purposes after allocations to the railroads and Occupation forces. Thus, it was conceived that imported oil would go to the steel industry, then the increased steel output would go to expand the

coal industry, and lastly, increased coal production would be reinvested in the steel industry. Reconstruction Bank funds were priority allocated to the coal industry, labor recruited, and strict rationing imposed, and the system got under way in 1947, achieving the coal production target of 30 million tons. These measures were successful and the economy slowly recovered with inflation gradually stabilizing in 1949.

The final arrest of inflation was perhaps due to the effects of the Occupation-sponsored Dodge Plan which was a wide ranging program of stringent fiscal and monetary policies occasioned by the intensifying Cold War and a desire by the United States to make Japan "a bulwark against communism". Actually, U.S. policy to Japan began to shift from the end of 1946 and thereafter reparations were reduced to one-fourth those proposed in the Pauley Report and anti-monopoly measures and the break-up of the zaibatsu were greatly eased with action being taken against only eighteen companies instead of the initially proposed 325. Moreover, foreign trade was reopened in the summer of 1947, which together with the Cotton Revolving Fund planned by the United States led to the revival and recovery of the cotton spinning industry.

Dodge was a classical economist in the area of fiscal and monetary policy, rejecting government interference. Believing in the free-market economy he set about dismantling the existing controls via a balanced budget, suspending new loans from the Reconstruction Bank, and reducing and abolishing subsidies. Such decontrol measures amounted to a full-scale deflationary policy the implementation of which was only made possible through the authority of the Occupation forces. Dodge took the stance that under such policy Japan must not look to the United States for aid but rather achieve recovery through her own efforts amid free competition, and accordingly, a single exchange rate of ¥360 to the dollar was fixed to facilitate exports. Under this exchange rate Japan would have to recover her international competitive power.

The Korean War and Rebuilding of Capitalism

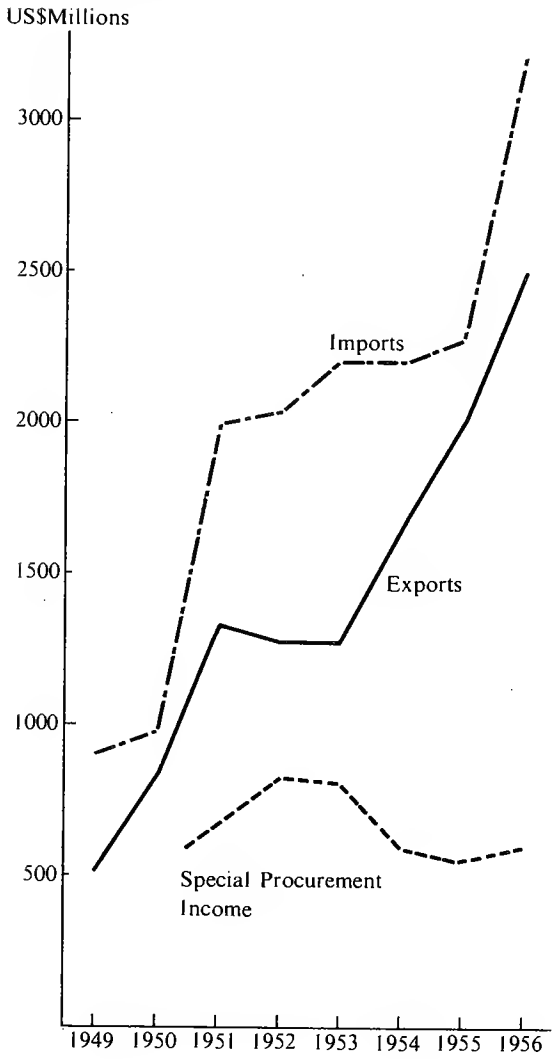
The year 1949 saw recession worldwide and this coupled with the continuation of the Dodge Plan and no easing of the monetary situation led many to fear a full-scale depression. However, with the beginning of the Korean War in 1950 the picture changed completely and by the end of 1951 world trade had increased 34% on a value basis mainly due to a 23% rise in export prices. Responding to this, exports from Japan in the 1949-51 period marked a 2.7-fold increase and production a 70% rise (see Graphs 19a and b) with employment and corporate profit also posting substantial jumps. Nevertheless, on a volume basis, exports did not recover the prewar level until about 1959-60, reflecting the loss of markets and changing demand illustrated by a switch from silk to nylon and other man-made fibers.

Burdened with defeat and reconstruction not only in reality but psychologically, Japan found in the Korean War a much needed shot in the arm for her economy, and the resultant boom induced strong plant and equipment investment.

Of greatest importance was the inflow of foreign exchange stemming from expenditures by the U.S. military that were called special procurements. Foreign currency from these hit $590 million in 1951 and over $800 million in both 1952 and 1953 to equal 60-70% of Japan's exports, thereby raising the ceiling on the balance of payments. Thus, through special procurements and exports Japan was able to import at the rate of $2 billion annually which allowed industries dependent on imported raw materials to double their capacity.

It is interesting to note that in the mid-1930s, imports and exports accounted for about 20% of GNP but then dropped to 10-13% in the early-1950s and thereafter declined until the first oil crisis in 1973. This surprising fact in the middle of high growth is explained not so much by less dependence on imports but rather changes in industrial structure. In many industries, value added increased and, coupled with improving terms of trade, the ratio of

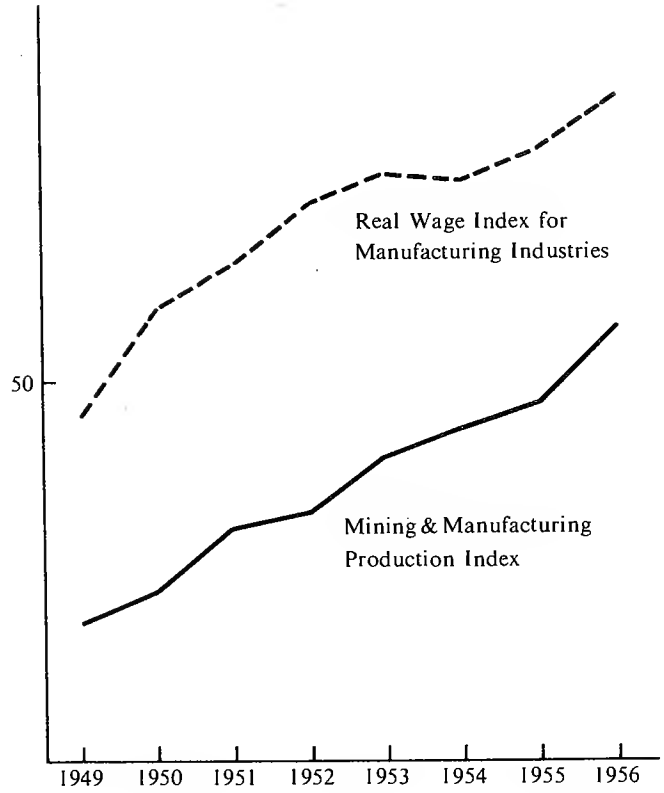
Economic Indicators during and after the Korean War (a)



Graph 19a

Sources : International Trade Statistics (Ministry of Finance) and Foreign Exchange Statistics (The Bank of Japan).

Economic Indicators during and after the Korean War (b)



Graph 19b

Sources: Monthly Labor Statistics (Ministry of Labor) and Mining and Manufacturing Production Index (Ministry of International Trade and Industry).

imports to GNP traced a continuous decline to below 10% in 1973. This together with the higher ceiling on the balance of payments raised the upper limit on GNP expansion, thereby permitting rapid recovery and growth.

With such great demand, bottlenecks appeared in the electric power, steel, shipping, and coal industries, inducing plant and

equipment investments and the import of foreign technology to catch up. Supporting such investments were capital accumulation policies for industrial reconstruction which were the prototype of Japan's postwar industrial policies. The first such measure was the establishment through national funds of the Export Bank of Japan (later renamed the Export-Import Bank of Japan) in 1950 and the Japan Development Bank (which succeeded the Reconstruction Bank) in 1951 — the former providing financing to promote exports and the latter low-interest funds for plant and equipment investment to key industries.

Tax measures were adopted that encouraged businesses to invest and export and the Enterprise Rationalization Promotion Law of 1952 accelerated plant and equipment investment since it enabled a lower tax burden. Another policy area was the foreign exchange allocation system which while restricting the overall value of imports was a good way of protecting industry. One instance is the automobile industry which grew under this policy and secured the domestic market for itself.

With the signing of the San Francisco Peace Treaty in 1951 and the Japan-U.S. Treaty of Mutual Security of 1952, Japan regained her independence. The continuing U.S. military presence allowed Japan to save on military expenses and Prime Minister Shigeru Yoshida pushed economic reconstruction and growth.

Following independence, many revisions were made, notably the 1953 revision of the Anti-Monopoly Law which allowed depression and rationalization cartels. This policy did not really restrict competition, but, on the contrary, enabled companies to take bold decisions secure in the knowledge that relief would be available if necessary.

Thus, by the time of the San Francisco Peace Treaty and the end of the Occupation, Japan's economy had absorbed democratization and was experiencing high growth.

CHAPTER 6
RAPID GROWTH (1951-52 to 1973)

Rapid Growth and Cycles

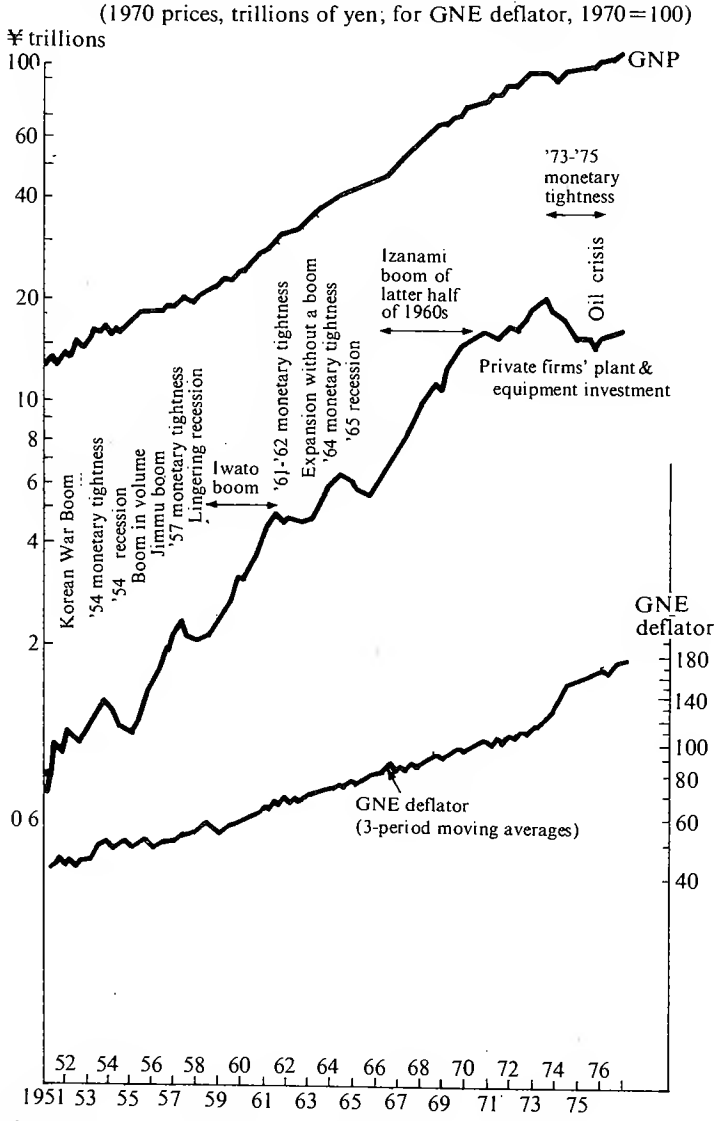
In the period of what is commonly called high or rapid growth Japan's GNP grew an average 10% annually and in 1968 she overtook the Federal Republic of Germany to rank number two worldwide in the free world following the United States (see Graph 20). Supporting this growth externally by stimulating exports from Japan was world trade which increased three-fold in the 1955-70 period (an average 7.6% growth annually) and also domestic factors such as the 22% rise in plant and equipment investments from 1951 to 1973 which was the driving force behind domestic demand that in turn encouraged rapid growth.

While the overall trend of growth was upward until 1973 and the first oil crisis (as seen in Graph 21), there were periodic ups and downs in line with the inventory cycle, reflecting fluctuating increases in inventory levels and the balance of payments going into a deficit on current account. More precisely, the mechanism worked as follows: expanded production required more imports and this coupled with continuing growth led to greater domestic demand for plant and equipment, brisk private and public consumption, and the consequent increase in inventories; however, with goods being directed to meeting domestic demand, exports were held back and the balance of payments posted a deficit.

Excess imports over exports resulted in domestic yen being absorbed to buy foreign currency with which to pay the import bill, a situation which occasioned a period of tight money. This, together with a drop in foreign currency reserves saw the authorities imposing tight money measures which curbed domestic consumption, forcing the corporate sector to hold extra inventories than planned. Graph 21 shows 1957, 1962, 1963-64, 1970, etc., to be periods of rapid inventory accumulation.

Real GNP, Private Capital Formation, and Price Changes, 1951–76

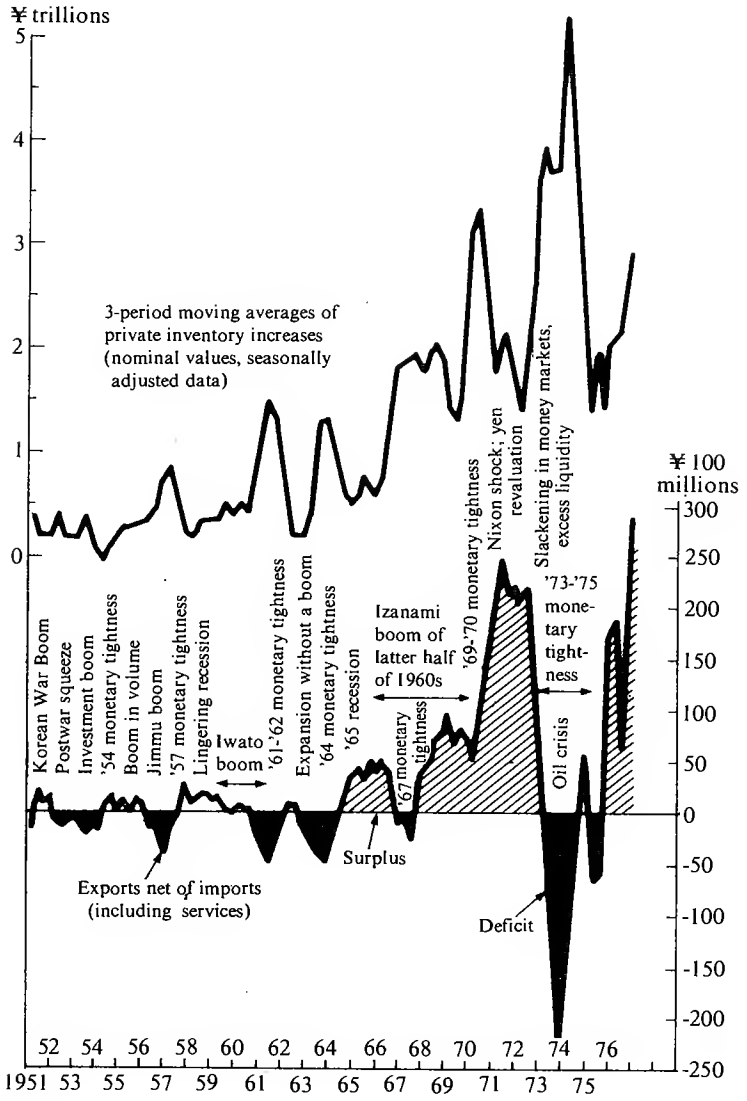
(1970 prices, trillions of yen; for GNE deflator, 1970=100)



Graph 20

Source : T.Nakamura, "The Postwar Japanese Economy" (Tokyo University Press).

Balance of Payments and Inventory Cycle, 1951–76



Graph 21
Source : Same as Graph 20.

Because of these periods of unplanned inventory accumulation, plant and equipment investment slowed, the employment situation weakened, and consumption suffered. Nevertheless, the subsequent recessions were mild and only part of successive growth cycles.

The tight money measures imposed by the authorities took effect very quickly and only lasted for about a year in most cases — with dull domestic demand, corporations pushed exports leading to an improved trade balance and a relaxation of the government's tight money policy resulting in an eventual pick up of the economy to yet higher levels as occurred in 1957-58, 1961-62, and 1965-66. Graphs 20 and 21 illustrate this cyclical process.

While the balance of payments constraint was the main reason accounting for these growth cycles and restricted the growth rate to 10%, it ceased to be so by the late-1960s when continuous increases in foreign currency reserves became the pattern. Thereafter, growth was in excess of 10% and the problem became how to dampen wholesale prices. This was achieved by suppressing domestic consumption, again forcing the corporate sector to export, occasioning yet further trade surpluses until the revaluation of the yen in 1971 and the oil crisis of 1973.

International Conditions

Compared with earlier periods, worldwide GDP was much higher in the post-World War II years (1950 to the mid-1960s), registering 5% according to United Nations statistics as opposed to other long-term growth estimates of 2.7% from 1870 to 1913 and 1.3% from 1913 to 1950 for Europe and America. The higher growth in the post-World War II period was partly due to technological progress but more importantly to the acceptance of full-employment objectives by many advanced countries and the establishment of fixed exchange rates via the International Monetary Fund (IMF) in place of the gold standard which paved the way for a more stable environment for freer international trade.

Postwar, the United States poured millions of dollars into various plans: the Marshall Plan to aid the recovery of Europe; special procurements in Asia, especially Japan, for the pursuit of the Korean War; and the Colombo Plan aimed at developing countries. Under the Marshall Plan, the Western European nations took full-employment and economic growth as their policy objectives which very effectively expanded the size of the world market, leading to a very favorable situation for Japanese exports. Under the postwar IMF system the U.S. dollar came to be the key currency worldwide with fixed exchange rates — for Japan a rate of ¥360 to the dollar from 1949, which was maintained until an upward revaluation of the yen in 1971 and which considerably strengthened her international competitiveness during the period by making Japanese companies face foreign competition. Evidencing this are export price indexes — whereas Japan stood at 102.2 in 1950 and the United States, 81, by 1960 the gap was closed to 95.9 and 99, respectively, with European countries at much the same levels as Japan; but a decade later, in 1970, Japan had clearly overtaken the United States in competitiveness by posting an index of 109.5 compared with 121 for the United States; and thereafter the gap continued to widen in Japan's favor.

Reflecting this increasing competitive power, the jump in world trade, her policy objective of growth, more about which will be said later, and last but not least the IMF system of fixed exchange rates, exports were very responsive and greatly expanded. However, because of the loss of of captive export markets such as Formosa, Manchuria, and Korea following defeat, Japan's exports in 1952 were only 40% of the prewar level and did not fully recover until 1960. Moreover, since her exports and imports with the United States accounted for over 30% of the total, business downturns and upturns in the American market came to have a not inconsiderable effect upon the Japanese economy, which has continued to this day to a certain extent.

Looking at the composition of exports we see that textile products accounted for about half in 1950, 37% in 1955, but only 5% in 1975. While steel exports rose to 34% in 1964 they

subsequently fell to 10%, being replaced by machinery and transport equipment, especially cars and ships which came to be export leaders. A glance at imports is equally revealing: since the 1950s, raw materials and fuel have taken an approximate 50% share, and with food, this figure becomes 80% for primary products overall.

In comparison with Europe it is noteworthy that Japan imported a relatively small amount of industrial products, reflecting changes in Japan's industrial structure and a shift to the export of processed goods of an increasingly high value-added nature, and in turn, mirroring the stable import of low-cost raw materials and oil which were in constant demand by heavy industry. With worldwide raw material prices being relatively low, Japan's terms of trade improved significantly in her favor, further supporting rapid growth.

Domestic Conditions

With the immediate postwar purge of some big business leaders, Japanese companies came to be headed by professional managers who advocated aggressiveness aimed at expansion and high profits rather than soundness as evidenced by equity capital ratios declining from the prewar level of 60% to 25%.

This intense competition resulted in entries into new areas, the import of technology to gain the edge over rivals and also to close the gap with Western nations with which Japan was ten years behind in some cases, and heavy plant and equipment investments to expand production. The textile industry well illustrates this push into new areas in the form of synthetic fibers and also technology import: Toyo Rayon imported nylon technology from Dupont, followed in 1955 by the entry of Nippon Rayon attracted by the good profits. Late entrants not only entered the nylon market but also polyester production with borrowed technology. The 1960-65 period saw intense competition to import technology between the new entrants and the longer established big five

companies including Toyo Rayon, Nippon Rayon, and Teijin.

The government's industrial policies which provided assistance in times of recession through cartels, tax exemptions, orderly capacity increases, etc., encouraged firms to be daring in their business adventures and this pattern was very successful until the beginning of the 1970s. Hence, plant and equipment investments ceased using only equity capital and turned to loans and the issue of debentures, etc.

Even high interest payments did not deter the new breed of managers provided they could achieve higher profits from operating at full capacity with the new facilities. Higher profits meant more investment which grew more than ten-fold from 1952 to 1970. Such a spate of investments was supported by consumption demand which accounted for about 40% of the increment in GNP in the period under review (except 1961-64). Additionally, since private fixed capital formation was between 20-30% and government investment 7-9%, this meant about one-third of gross domestic demand was supported by investment. Thus, the economy was sustained by the demand created by the high level of investment and while government investment was only 7-9%, as just mentioned, its relative importance was much greater since it was for infrastructure improvements such as roads and harbors.

Underlying rapid growth was the stability of labor-management relations particularly when compared with the experience of the United States and the United Kingdom. The common purpose of strengthening their firms in the postwar decade united management and labor and was promoted by the already existent seniority and lifelong employment systems.

Labor came to be in short supply in the early-1960s and there was a general rise in wages led by the unions and their annual "spring wage offensive" which distributed the previous year's rise in GNP. Such wage rises became a target not only for the labor force but also farmers whose main income was determined by the government's purchasing price of rice. Since productivity increases

in the agricultural and service sectors and also among small enterprises were limited, the prices of agricultural goods and services, etc., were increased considerably to meet the higher labor costs. Actually, this worked well to effect the equalization of income distribution and by the late-1960s some 95% of the people felt they were middle class.

Technological Progress and Industrialization

The previous chapter indicated that the direction of Japan's postwar growth was more or less determined by industrial developments just prior to and during the war. Toward the end of the postwar reconstruction phase in about 1950 many Japanese industries began importing foreign technology to increase productivity and cut costs. Some were completely new to Japan such as nylon and continuous rolling know-how in the steel industry. Others capitalized on skills and experience acquired during the war, often in armaments-related industries, which became the foundation for the adoption of imported technology and mass production success in such areas as radios, televisions, cameras, watches, sewing machines, etc. Shipbuilding, too, was revolutionized following the import of block construction and electric welding know-how.

Like the introduction of industry in the Meiji period, the post-World War II development of technology was in a certain sequence — first the materials and basic industries, including steel and electricity, then electric machinery, and finally the evolving assembly industries such as cars. Nor was the effect of imported technology limited to the industry importing it, but related industries also greatly benefited as witnessed by the electric power industry which constructed large hydroelectric power generating dams, which, in turn, had a ripple effect in prompting the construction industry to import the latest equipment heralding the start of technological progress in that industry, too.

Moreover, new industries and products quickly emerged as

illustrated by the chemical industry. Through foreign technology this industry evolved into petrochemicals centering on imported naphtha cracking know-how which led to the production of polyethylene and polystyrene as raw materials for synthetic fibers and plastics. This gave birth to a host of new products from construction materials to household plastic containers.

With technical cooperation from European makers Japan's automobile industry was able to develop, assisted by the production of special steel and better casting methods, both made possible by technological progress. Japan's automobile industry was carefully cultivated in the sense that the government restricted imports until 1965 and makers competed with each other to win their share of the domestic market. With falling prices and an established domestic market, Japanese automakers felt confident in commencing exports after 1965.

Before concluding this section, mention must be made of the huge jump in crude oil imports from 9.27 million kl. in 1955 to 288.49 million kl. in 1973. The switch from coal to oil took place abruptly in the mid-1950s and by 1973 accounted for about 90% of all energy imports. Since imported energy to total energy supply in Japan was 89.9% in the same year, the importance of oil is most evident. However, this meteoric rise was at the sacrifice of the coal industry which virtually collapsed.

Prewar, Japan's industrial structure and export growth had focused on light industrial goods which gave way to heavy industrial goods postwar. Heavy industries were located on the Pacific coast for the convenience of importing raw materials and oil and also for shipping their products through the cooperation of group companies. Chemical and heavy industrialization was the take-off for this phase of Japan's economic growth and it was fortunate that the overall economy was able to respond to changes flexibly, greatly supported by the generally bullish behavior of firms, labor and management having the same goals, the increased competitiveness of her goods, and favorable terms of trade. The chemical and heavy industries were key to the cyclical development

of the economy and not only did they mutually reinforce and expand demand between themselves nationwide but they stimulated other industries in the form of derived demand.

Government Planning and Policies

In the economic policy and planning area, Prime Minister Shigeru Yoshida pursued economic recovery and growth. While subsequent cabinets were consistent in support of this policy they generally tended to alternate between aggressive and conservative programs.

From 1955, the government compiled various five-year plans though most lasted under three years because planned estimates were outpaced by actual growth. Generally, these plans indicated which direction economic development should take, the necessary government policies to achieve them, and behavioral guidelines for industry, the last verging on the much discussed, by advanced Western countries at least, administrative guidance.

The most successful plan was the Income-Doubling Plan of 1960 which was devised by Hayato Ikeda, who before he became Prime Minister had been Finance Minister under Yoshida. Ikeda realized the importance of economic growth and pursued it through his plan which advocated higher national living standards and full employment through the maximization of stable growth. This plan is perhaps not so significant for its targets, which clearly recognized Japan's capacity for rapid growth, as for its widespread positive psychological impact not only upon the corporate community but also the citizenry in general. Examples of this influence are the huge increase in plant and equipment investments in 1961 causing an unprecedented boom following the big investments of 1960 and also the broad and high (13.8%) wage increase obtained in the spring labor offensive of 1961.

In the latter part of this period after 1965, efforts were turned to tackle the problem of mild inflation under full employment

partly due to a rise in the prices of services and agricultural goods because of lower productivity increases in these sectors. Plans were formulated to hold down growth and prices but they continued rising and when the Tanaka Cabinet recognized the ongoing rapid growth and attempted to sustain it in the Basic Economic and Social Plan based on Tanaka's private "Building a New Japan, A Plan for Remodeling the Japanese Archipelago", the oil crisis of 1973 occurred, changing everything.

In the 1950s, as we have seen in the last chapter, the Japanese government wanted to assist weak and infant industries and promote their international competitiveness. For example, the Ministry of International Trade and Industry (MITI) formulated promotion measures for the electronics industry in 1957, which included long-term low interest loans from the Japan Development Bank, special depreciation under the Enterprise Rationalization Promotion Law, and permission to form a cartel for rationalization purposes under the revised Anti-Monopoly Law. This policy achieved spectacular results in promoting the production of electronic calculators and instruments for automation processes.

In 1960, however, the government began to liberalize imports which also reflected the increasing competitive power of industries. Special protective measures such as the exchange allocation system were abolished and while some goods, including automobiles, computers, and agricultural products such as beef, sugar, etc., were initially excluded, liberalization progressed year by year with automobiles being liberalized in 1965 for example. The government tried to enact a Designated Industries Temporary Measures Act in 1963, which included strong special promotion measures such as standardization, the establishment of industrial complexes, mergers, etc., to meet domestic competition following the capital liberalization of the automobile, tire, petrochemical and machinery industries. However, this bill never actually passed into the statute book because business circles were against such direct intervention by the government. In the mid-1960s, industries did recover their competitiveness in world markets and took bold

expansionary steps, confident in the knowledge that the government would introduce policy measures in a recession or emergency. Industrial policies thus became more soft and delicate, reflecting this situation.

Fiscal Policy

In the area of fiscal policy, Dodge's dictum of fiscal balance was inherited and maintained by post-1952 cabinets which restrained price increases and balance of payments deficits. This "low-cost government" saw its demise in 1960 with the installation of Prime Minister Ikeda and his Income-Doubling Plan and expansionary policies, the latter resulting in budget increases exceeding 25% in the early-1960s which accelerated overall growth. Such budgetary expansion was possible because tax revenues exceeded expectations thus allowing supplementary budgets in the second half of the fiscal year. Hence, rather than pulling in the reins with regard to spending as is the case with counter-cyclical management of an economy, fiscal policy was expansionary and magnified business fluctuations.

A turning point came in the recession of 1965 when the Finance Act was amended to permit the issue of bonds to fund national debt for the stimulation of domestic demand, which, in turn, allowed the implementation of counter-cyclical policies. However, 1970-71 saw monetary tightness and the yen's revaluation prodding the government to issue bonds to stimulate the economy and expand spending. The subsequent inflation and oil crisis of 1973 ushered in a drop in tax revenues, greater reliance on government bonds, and the curbing of public spending in the face of recession.

The targets of public spending deserve mention as they directly and indirectly spurred growth. Of total general account expenditures, the component ratio of defense outlays consistently dropped from 17.6% in 1950 to 9.4% in 1960 and 7.2% in 1970, although on a value basis there was an increase mirroring general

account expenditures increasing from ¥633.3 billion in 1950 to ¥1,734.1 billion in 1960 and ¥8,213.1 billion in 1970. This allowed the government to focus on local governments and public works, the component ratios of which increased from 15.7% and 13.0% in 1955 to 19.3% and 19.2%, respectively, in 1965. Public works expenditures, a tool by which to stimulate the economy, were particularly significant in that they went to build up infrastructure in the form of roads, harbors, and the Shinkansen super express rail line creating external economies for industry. One instance of this is the development of highways which accelerated the use of the automobile and hence the growth of the automobile industry. Furthermore, with greater ease of transportation new areas became practical for the location of industry,

Monetary Policy

In addition to general account expenditures, treasury investments and loans also played a key role in supporting growth. National funds, including postal savings and annuities, and those with the Japan Development Bank, the Export-Import Bank of Japan (previously the Export Bank of Japan), the Small Business Finance Corporation, and the Housing Loan Corporation, were increasingly lent out so long as economic growth continued. Initially, in the 1950s, basic industries followed by housing, small business, and transportation and communications, were the major recipients, generally in that order and accounting for an average 55.7% of total treasury outlays from 1955 to 1959. While housing outlays posted consecutive annual increases from a component ratio of 12.6% in 1963 to 18.1% in 1973, reflecting shortages, outlays to basic industries declined in the 1960s from a component ratio of 13.4% at the beginning of the decade to 5.9% at the end, echoing the fact that the growth of these industries had become self-sustaining. On the other hand, the relative importance of transportation increased in this period as did export promotion due to the government's goal of heightening international competitiveness. Nevertheless, as the 1970s approached, housing and the environment led all other items, pointing to a policy shift from the pursuit of growth to welfare.

Of note is Japan's small government — as a percentage of GNP, central government spending was only 11.5% in 1968 and 14.3% in 1975 compared with figures for the same years of 21.4% and 24.1% for the United States, 26.6% and 34.6% for the United Kingdom, and 21.6% and 21.2% for France. Accordingly, the government's traditional stance of avoiding tax increases was maintained and as a percentage of national income, national and local taxes in Japan only amounted to 18.4% in 1968 and 17.8% in 1975, compared with figures of 28.9% and 27.9% for the United States, 37.6% and 37.2% for the United Kingdom, and 29.2% and 30.5% for the Federal Republic of Germany.

Like the direction of postwar growth, that of monetary policy was also decided during the war and immediate postwar years. While prewar the Bank of Japan and big zaibatsu banks had had fairly independent positions, postwar the former found itself controlled by the Ministry of Finance in the final resort and the latter by the Bank of Japan. Hence, monetary policy was directed to supplying the funds for the pursuit of the war and then economic recovery, all the time trying to dampen inflation. In such circumstances, stronger controls than might otherwise be expected were the norm. With the Dodge Plan and setting of economic growth as the nation's goal, policymakers made extensive use of control methods in the 1950s and 1960s.

By 1951, reform of Japan's financial system was almost complete. All previous government-related banks, with the exception of the central bank, had either been liquidated or converted into commercial banks. Banks such as those connected with former occupied areas, like the Bank of Taiwan, had been terminated in 1945, and the Yokohama Specie Bank became the Bank of Tokyo in 1950, specializing in foreign exchange. However, with independence in sight, there were more changes but generally in the sense of the establishment of new organizations. The Export Bank of Japan (1950) and the Japan Development Bank (1951) were set up with treasury funds to respectively supplement the financing done by commercial banks in the supply of long-term funds to industry and export finance. In 1952, the

Industrial Bank of Japan began to be a bond-issuing long-term trust bank and in the same year the Long-term Credit Bank Law was passed, greatly contributing to capital accumulation.

With the re-start of economic growth in the 1950s the number one priority of monetary policy was the supply of funds which was made available through the commercial banks and other institutions such as mutual savings banks and credit associations whose loans expanded from ¥0.5 trillion and ¥0.3 trillion in 1950, respectively, to ¥52.4 trillion and ¥66.1 trillion in 1970. Hence, during this period, indirect financing — the absorbing of surplus funds in the private sector and their subsequent loaning out — came to be very important for the expansion of plant and equipment investments, and thus, economic growth. Corporate dependency on loans as a source of funds had fallen from 51.2% in 1950 to 36.7% in 1955, but with high economic growth this quickly picked up to 44.9% in 1960 and 49.6% in 1965.

With such a high dependency on loans, the Bank of Japan's position, being the ultimate source of funds, was enhanced and its ability to control strengthened. As mentioned previously, the regulation of business activity — accelerating growth or cooling an overheated eonomy — was left to the realm of monetary policy (although with the beginning of deficit-financing bonds from the late-1960s, fiscal policy began to be a little more flexible). Because business firms and financial institutions were generally short of funds, they had little power to resist monetary policy controls which often verged on being direct, so much so that when taken to either promote or restrain the economy, effects were quick to appear with very important results for the whole country.

The Bank of Japan effected tight money policies through controlling credit by its use of the official discount rate, penalty interest rates on banks borrowing above set limits, the introduction of "window guidance" in 1954, and institutionalization of deposit reserve ratios in 1961. Window guidance generally takes the form of banks being directed to restrict their loans to a certain percentage of those made in the corresponding prior-year quarter.

Without giving examples suffice it to say that postwar monetary policy was strong and effective via the Bank of Japan's direct controls. Because of its effectiveness and in the absence of much maneuverability in fiscal policy, monetary policy has become much more important in addressing both sides of the growth-versus-restraint dilemma.

The Dual Structure and Its Decline

As noted in the previous chapter, an unemployment situation did not materialize in the immediate postwar years and statistics reveal a mere overall unemployment rate of just over 2%. However, this does not accurately convey the real situation, for many were employed at extremely low wages, so much so that there was truly "latent" or "disguised" unemployment. Following defeat, the agricultural sector absorbed a huge number and in 1947 employed 28% more workers than prewar. Coupled with no remarkable increase in land under cultivation or technological progress the marginal productivity of agriculture and forestry declined substantially. The agricultural sector had little choice but to absorb the outmigration from urban areas since marginal productivity in other sectors was as low as that of agriculture or less.

As productivity in non-primary industries began to improve some left the villages and returned to urban areas, though this trend did not really gain great momentum until the Korean War. From 1950 to 1955, over one million left the agricultural sector with those engaged in non-primary industries increasing by almost five million, most of whom were in the hired worker category rather than the self-employed or family worker categories. While manufacturing posted big increases, almost half of these five million were employed in commerce and services at low wages.

The year 1955 saw the beginning of a big migration from the land into construction and manufacturing — the chemical and heavy industries and especially the machinery industry which until 1970 accounted for over half of the increase in the number

employed in manufacturing. Then, toward the end of the 1950s, a labor shortage began to appear, especially for young workers, which was accentuated by the Iwato Boom of 1959 and demand from the machinery industry. The exodus from the countryside swelled, reaching 900,000 in 1963, many of whom were prime agricultural workers. By 1975, the destination of those leaving primary industries had shifted from construction and manufacturing to the tertiary sector, mainly commerce and services.

Parallel with these labor shifts in the 1950s were widening differentials in wage and employment conditions between permanent full-time staff and temporary staff. This situation arose because it was advantageous for companies to utilize temporary staff who would accept low wages and who could be dismissed when business turned downward, thereby providing a kind of cushion against business fluctuations. However, as a labor shortage began to appear small firms employing temporary labor increasingly had to pay more to attract workers and improve working conditions. Nevertheless, such a temporary labor force declined and into the gap stepped women, not because their families could not make ends meet reflecting disguised unemployment as had been the case in the 1950s but because they simply wanted extra cash be it to cover their children's educational expenses, leisure activities, or whatever. From the late-1960s, the increase in female part-timers was rapid and in the 1965-74 period they accounted for 95% of this kind of marginal labor force which, however, was the first to face layoffs when the oil crisis occurred. Parallel with the tightening of the labor market, of course, were narrowing wage, age, sex, location, and firm size differentials.

As indicated in the aforegoing discussion about labor, we saw that wage differentials arose in the early-1950s when there was a labor surplus. Absorbing a large portion of the migration from rural areas were small businesses, the average wages of which were far lower than those paid by larger concerns and hence the emergence of the dual structure theory. Even during the period of rapid growth small businesses absorbed a large part of the increment in the working population.

Larger firms paying higher wages saw this situation as advantageous in that they could cut costs by subcontracting out to small firms as well as spread risks. Furthermore, during bad times they could easily drop their subcontractors, defer payments, and bargain for lower prices. Because of their small size, such companies were the first to be affected by tight money policies though the large companies with which they were connected often assisted. Of course, during good times they were assured of orders. It seems that the greater part of small and medium manufacturing was still made via subcontracting, which was the case for 70% of such manufacturing firms in the textile, electric machinery, machinery, clothing, and steel industries.

Being technologically behind large companies the low productivity of value added of small companies began to cause concern in the 1960s and in the face of a labor shortage and intensifying international competition, the Basic Small Business Law was passed in 1963. This law required small businesses capitalized at ¥50 million or less and employing 300 or fewer (in the commerce and service area, ¥10 million and 50 employees) to take measures to avoid excessive competition, rationalize subcontracted transactions, etc. Through this policy, modern equipment was introduced, technology improved, and cooperation among firms promoted. With the Small Business Modernization Promotion Law of the same year, funding was provided and modernization plans made which allowed the forming of cartels. Such measures continue to be implemented.

The small business area is in a constant state of change from the viewpoint of new entrants and firms going bankrupt (a high start-up, and high failure rate sector), which is not surprising since according to one survey the most common age of the founders of these companies is 30-34 and their capital, only about $10,000 (half being borrowed from relatives and friends).

Of particular interest is that the functions of former traditional industries shifted to small businesses as witnessed by the textile industry and light industry. It is safe to say that in the 1960s small

firms accounted for the greater portion of consumer goods, the market for which they had secured. The situation is much the same today though small businesses are becoming more capital intensive and technologically oriented with the result that some, such as Kyocera (established in 1959), have displayed spectacular profit growth, thereby attracting great attention. These "venture businesses", as they are called, are characterized by strong and innovative organizers, the pursuit and development of unique products having growth potential and able to be mass-produced, and the making of markets. With the labor shortage and narrowing wage differentials between large and small businesses, small-scale businesses rapidly adopted labor-saving technologies to cut production costs and under rapid growth achieved considerable modernization of their management and production. The significance of the subcontracting system has been in the process of transformation from the indirect utilization of cheap labor to a more rational division of labor among firms having original technology.

Lastly, in this section, a word must be said about agriculture and its position vis-ā-vis the dual structure. As noted previously, while the agricultural sector absorbed huge numbers immediately postwar, it lost far more with the migration to urban areas during rapid economic growth.

National census figures show that the agricultural working population was over 16 million in 1947, just over 13 million in 1960, and then plummeted to 6.7 million in 1975. For the same years, the index of agricultural production (1970=100) increased from 41 to 80 and 105, livestock showing a particularly big jump from 3 in 1947 to 36 in 1960 and 113 in 1975. On the other hand, land under cultivation, which had increased from 1947 to 1960, dropped consistently thereafter by about 10% up to 1975. These figures also evidence the rapid adoption of labor-saving technology in this sector.

However, when one realizes that the agricultural working population comprises a large percentage of part-timers (those for

whom half or more of their income is non-agricultural in origin) — 20% of total farm households in 1950, over 30% in 1960, 50% in 1970 and over 60% in 1975 — the extent and transformation of the dual structure is evident.

While initially concerned with achieving some degree of self-sufficiency in food, the authorities later gradually shifted to a policy of guaranteeing income security for rice farmers. As a result of rice prices being determined by the production-cost income compensation formula since 1960, rice prices soared. This policy was designed to stabilize agricultural prices to correct income differentials between agriculture and other industries.

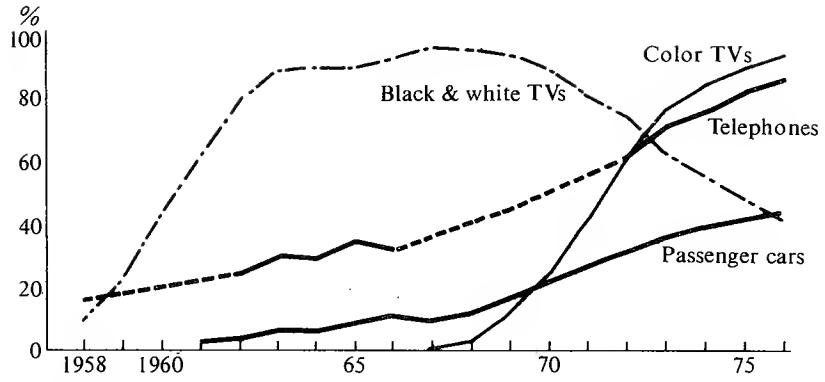
Results of Rapid Growth

From the mid-1950s until the oil crisis of 1973, GNP grew about 10% annually and consumption quadrupled. By the latter half of the 1960s the basic needs of the population in terms of food and clothing had easily been met and thereafter consumption varied responding to individual tastes, in many cases induced by advertising and the making of mass markets. A look at Graph 22 illustrates this point. The black and white television market reached saturation point in the years 1963-67 and then dramatically dropped, mirroring the very steep take-off in demand for color TVs in 1968. On the other hand, the market penetration of telephones and cars rose at a more steady pace and reached saturation in the 1970s.

Reflecting increasing disposable income, consumption patterns have become varied due to pluralistic tastes, and this is especially noticeable in the area of leisure activities — the bowling craze in the latter half of the 1960s, golf, tennis, vacation trips both domestically and overseas, eating out, and numerous cultural activities such as flower arrangement, the tea ceremony, and music.

However, one area that continues to be a problem is housing. With some 60% of the country being mountainous and a large

Consumer Trends



Graph 22
Source : Economic Planning Agency, Shohisha Doko Chosa (Survey of Consumer Trends), various years.

population mainly concentrated in coastal belts, there is little land available for building on. Coupled with ensuing high prices it is almost impossible to buy land and build a home on an ordinary salary, and when it is possible it is usually with a 25-year loan at preferred interest rates from one's company and a government organization. Thus, apartment living has had to be accepted by a great proportion of the populace.

Accompanying rapid growth were big changes in lifestyles which became more westernized as indicated by the rising consumption of bread (wheat imports on a volume basis doubled between 1960 and the 1970s), meat, and fruit. These dietary changes resulted in height and weight increases — the average height and weight of a 17-year old male in 1950 were 161.8 cm. and 52.6 kg., respectively, but in 1970 were 167.8 cm. and 58.7 kg.

Nevertheless, despite changing lifestyles due to increasing consumption expenditures, individual household savings also rose. Savings as a proportion of disposable income reached 24.9% for

Japan in 1976, compared with 7.9% for the United States, 11.2% for the United Kingdom, and 14.5% for the Federal Republic of Germany. Researchers cite varying reasons for Japan's high savings rate but it seems to be related to the system of bonuses which are paid twice yearly, in June and December, amounting to some three or four months salary. As already mentioned, this large pool of savings greatly assisted investments in plant and equipment.

Rapid growth has not been completely for the good, however, and it appears that a concomitant of industrialization is pollution, which came to be a social issue in the 1960s. The pollution created by exhaust fumes from vehicles is considerable and during summer months smog warnings are issued in urban conurbations like the Kanto and Kansai (centered on Tokyo and Osaka, respectively). Water pollution has been a considerable menace and both the public and private sectors have taken measures to improve the situation.

Eventually, the outcry became such that an Environment Agency was established in 1971, indicating a shift in policy solely emphasizing economic growth to one also paying due consideration to other values such as the protection of the environment. Hence, the negative effects of growth came to affect national economic policy itself. Technological progress just for the sake of industrial development had reached a turning point just as rapid growth itself was coming to an abrupt halt.

Internationally, the world wondered at Japan's rise from the ashes of defeat to an economic superpower. Testifying to her export growth which came to focus primarily on heavy industrial items, balance of payments deficits ended in 1964, except for a short-term crisis in 1967. Reflecting increasing competitiveness worldwide, hyper-economic growth proceeded apace. However, 1969 saw global inflation because of inflated import prices and when the Bank of Japan adopted a tight money policy, exports increased, heralding the beginnings of trade friction that culminated in the "Nixon shock" (the U.S. New Economic Progam

of August 1971, which suspended the convertibility of the dollar into gold and imposed a 10% import surcharge).

CHAPTER 7
THE END OF RAPID GROWTH (1973-)

The "Nixon Shock"

From 1967 to 1971, Japan's exports increased over 20% annually — in value terms from $10.4 billion to $24 billion. A breakdown of these figures shows that the export of chemical and heavy industrial items, of which steel products are representative, jumped from $6.8 billion to $17.9 billion in the same period, with the latter figure accounting for 82% of the increase in total exports. Other notable increases were marked by cars (from 370,000 to 2,370,000), ship tonnage (from 4.92 million tons to 8.61 million tons), TV sets (from 2.26 million to 6.25 million), tape recorders (from 7.94 million to 20.18 million), steel (from 8.8 million tons to 23.62 million tons), and the list goes on. Such explosive growth was due to the mass production of very competitive products resulting from plant and equipment investments, corporate skill in stimulating and creating markets, the relatively prosperous times worldwide, and lastly, the fixed exchange rate of ¥360 to the dollar.

As seen in Graph 21, Japan's trade surplus and hence foreign currency reserves burgeoned and international demands grew calling for a revaluation of the yen.

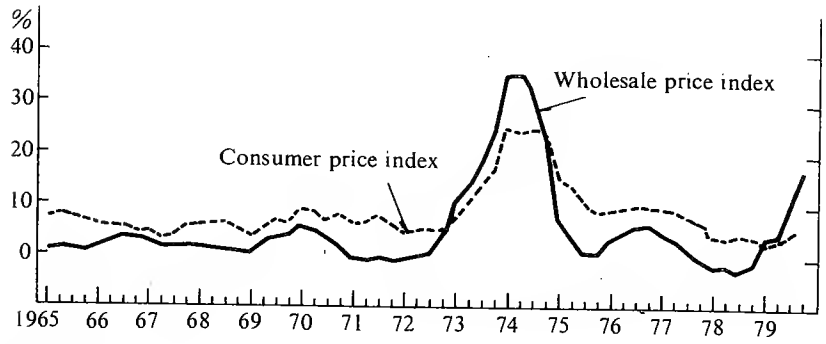
Anxious over a rapid rise in wholesale prices in 1969 reflecting a big hike in import prices due to global inflation, the monetary authorities embarked upon one of their periodic phases of restraining domestic demand in order to curb inflation at an early stage. While this policy was successful by the summer of 1970, it was accompanied by two unexpected results — the almost complete curbing of domestic demand and soaring exports. To stimulate domestic demand in what had become a recession, the government expanded expenditures and the Bank of Japan, money supply, but the recession continued until the summer of 1971.

The "Nixon shock" was aimed at dampening inflation in the United States and checking imports, especially from Japan, which it effected through a 10% surcharge. This signalled an adjustment of exchange rates which Western European nations did by changing to a floating exchange rate system. Japan, however, continued with its ¥360 to the dollar rate for a short time then shifted to a floating rate allowing the yen to rise to ¥308 in December as fixed by the Smithsonian Agreement.

Thinking that domestic business conditions would further decline as a result, the government bolstered its economic stimulative measures and while the "Nixon shock" itself did not have such a disruptive effect as first expected, these expansionary stimulative measures ushered in inflation. With speculative increases in land prices and rises in international commodity prices, reflecting big wheat purchases by the Soviet Union and OPEC's (Organization of Petroleum Exporting Countries) 1970 agreement with the oil majors on a 50% price hike over a five-year period, Japanese trading companies and wholesalers increased their inventories anticipating higher prices. From mid-1972 wholesale prices rose and coupled with a high level of corporate liquidity led to a rush to accumulate inventories. Panic buying spread to the ordinary consumer in 1973 with real demand spurring speculative demand which only forced prices higher. Fiscal 1973 public works investments were deferred and stringent tight money measures adopted, none of which were successful in curbing the tide of inflation.

Before considering the effects of the oil crisis of late-1973, a word should be said about corporate attitude. Despite values becoming more pluralistic with such subjects as the protection of the environment and better working conditions (reflecting the entrance of a generation who did not know the deprivations of the immediate postwar years) becoming issues, the belief in rapid economic growth was deep. Prime Minister Kakuei Tanaka's "Building a New Japan" plan in 1972 which envisioned 10% annual growth until 1985 evidences this strong attachment to rapid growth.

Increases in Wholesale and Consumer Price Indexes
(Year on Year)



Graph 23
Sources: Wholesale Price Indexes from Bank of Japan; Consumer Price Indexes Compiled from data from Statistics Bureau, Office of the Prime Minister.

The Oil Crisis

The final death knell to rapid economic growth was the oil crisis accompanying the fourth Middle East War of October 1973, which pushed international inflation even higher. For Japan, already experiencing rampant inflation, and dependent on oil for 75% of her energy supply, the five-fold increase in crude oil prices was a crippling blow. Moreover, other commodity prices were quickly affected in an already tight supply and demand situation. While wholesale prices had increased 15% year to year in the summer of 1973, by year-end they had increased about 35% (see Graph 23). With suppliers holding down production, anticipating higher material and labor costs, and, at the same time hoarding, the supply-demand gap widened, resulting in the so-called "crazed prices" inflation.

Naturally, Prime Minister Tanaka's ambitious plan for "Building a New Japan" had to be abandoned and austere

measures effected to bring down inflation which saw CPI rising almost 25% in a year. Led by the Bank of Japan and Economic Planning Agency Director General Takeo Fukuda, extremely stringent measures were taken, which continued for a full two years until 1975.

Japan was not alone in experiencing high inflation; in fact, from 1973 to 1974 hers was second in severity following that of the United Kingdom. But, thereafter, it subsided rapidly in Japan testifying to the success of the measures taken, whereas in other countries it became part and parcel of life, especially in the United States, France, and the United Kingdom through the 1970s. The cost of curbing inflation, however, was at the expense of corporate profits for, with declining demand and higher costs mirroring wage hikes and soaring raw material and fuel prices, margins declined substantially. Reflecting unintended inventory accumulation, corporate operating ratios fell about 25% in 1975 from 1973 and it is estimated that one-third of plant and equipment was idle, decidedly extinguishing any desire to invest in plant and equipment. Additionally, the corporate sector was especially burdened with interest expense on funds borrowed during the period of high growth as well as depreciation expense on plant and equipment. The mining and manufacturing index dropped 19% from the last quarter of 1973 through the first quarter of 1975 — the biggest postwar production decline, particularly affected by declines in the chemical and heavy industries as well as lumber, pulp and paper, and later textiles, steel, and shipbuilding which entered a pronounced slump.

As might be expected, an unemployment problem arose and while companies could not dismiss workers due to the lifelong employment system they did cut part-time workers, especially housewives, and also drastically curtailed recruitment. Bullish sentiment on the part of not only the corporate community but also the government was stifled and the economy experienced a recession on its way to "stable growth".

Toward Stable Growth

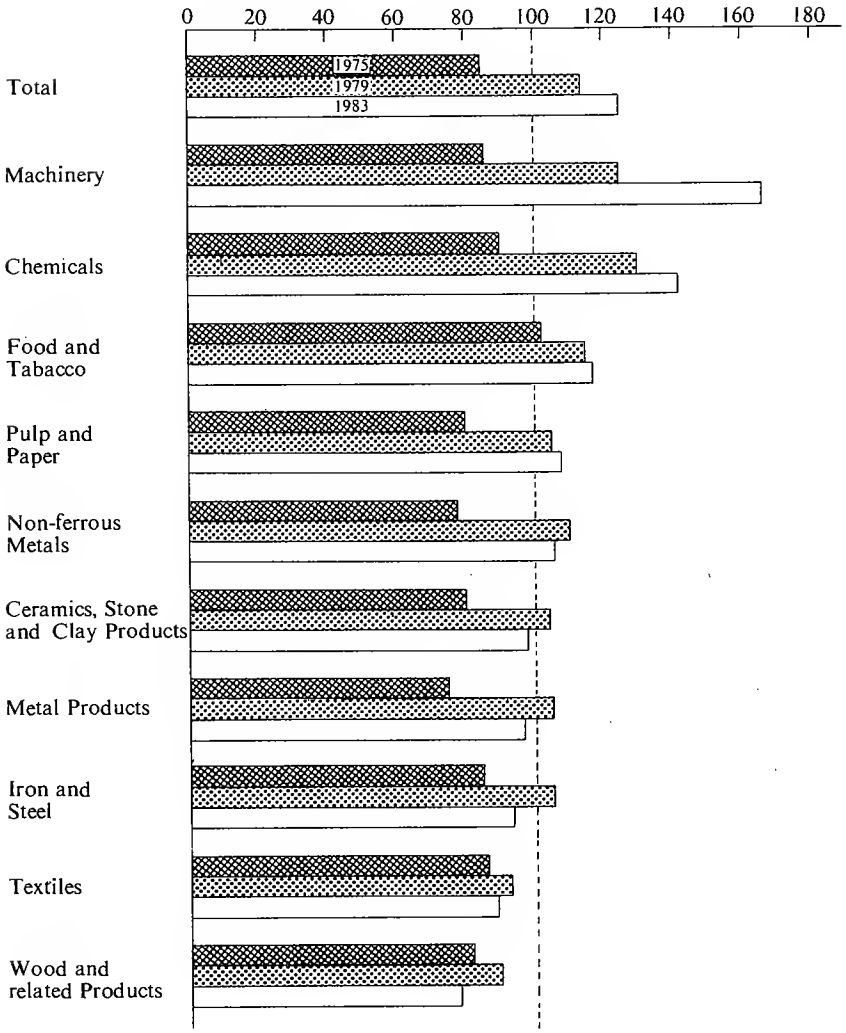
Japan's recovery from the first oil crisis was relatively smooth due to the combined efforts of labor and management to successfully implement "operation scaledown" policies and also because of the rapid change in industrial structure.

"Operation scaledown" policies included such rationalization efforts as energy saving and greater fuel efficiency, the introduction of new technology, lower labor and interest expenses, reduced inventories, etc. In the area of energy saving and led by government example, almost all business establishments, schools, and other organizations drastically cut down on their use of lighting and held heating and air conditioning within certain temperature levels. Corporations became very conscious of fuel efficiency as illustrated by the introduction of the continuous casting method in the steel industry and the NSP kiln in cement production.

Of great significance for rationalization efforts in the area of labor costs was Japan's unique system of labor-management relations whereby wage hikes were restrained from a 33% hike in 1974 to 13% in 1975, to 8.8% in 1976-77, 5.9% in 1978, and 6.1% in 1979. Efforts to reduce excess labor without resorting to layoffs continued for about five years and took the form of early retirement with a special allowance and transfers within and outside companies. Management also tried to reduce borrowing as much as possible which was naturally reflected in a lower interest burden.

The positive effects of "operation scaledown", which had begun in 1974, started to be felt in 1978 as witnessed by overall manufacturing productivity posting an average 8.4% gain (1975-78). Clearly such a gain was not due to large plant and equipment investments as had been the case pre-oil crisis, but rather rationalization efforts, especially in the area of labor. Indeed, "operation scaledown" spilled over into goverhment policy which began to call for administrative reform.

Production Indexes of Manufacturing Industries
(Level of Production in 1973=100)



Graph 24
Source : Ministry of International Trade and Industry, Production Indexes of Mining and Manufacturing Industries.

As mentioned in the introduction to this section, rapid change in industrial structure also contributed to the recovery. While the production of heavy and chemical industries was curbed due to higher costs following the oil crisis (and more so after the second oil crisis), that of industries of a high value-added nature such as the machine tool, electronics, and computer industries, increased. From a production index of 100 in 1973 (see Graph 24) steel dropped in 1975, rose slightly in 1977 and rather more in 1979, but then fell back to about 92 in 1983. Machinery, on the other hand, while falling from 100 in 1973 to about 85 in 1975, then rose continuously to 166 in 1983. It is interesting to note that the period following the first oil crisis saw the introduction of very innovative products such as NC (numerically-controlled) machine tools through the combination of electronic and machine technology, resulting in the birth of so-called "mechatronics".

Another aspect of this period is the nationwide expansion of tertiary industry (mainly commerce and services), the proportion of which to total GDP increased from 51.9% in 1973 to 57.3% in 1979 and 58.3% in 1982. Parallel with this increase were naturally corresponding decreases in the proportions accounted for by primary and secondary industries, especially the former which shrank from 5.7% in 1973 to 4.2% in 1979 and 3.3% in 1982. Furthermore, as might be expected, the proportion of the working population engaged in tertiary industry increased (from 50% in 1973 to 54.4% in 1979 and 55.9% in 1982) at the expense of the primary and secondary industries, the former again posting the bigger drop from 13.4% in 1973 to 11.2% in 1979 and 9.8% in 1982. This development of the tertiary industry reflected increasing income equalization between urban and rural areas and the penetration of urban-type consumption to every part of the nation.

As on previous occasions, the demand most critical to bring Japan out of recession was export demand. Despite IMF member countries having switched to a floating exchange rate system in February 1973 with the yen appreciating to ¥265 to the dollar and then declining to around the ¥300 level from 1974-76 following the oil crisis, exports again started to increase from the last half of

1975 (from $55.7 billion in 1975 to $67.2 billion in 1976, and $80.5 billion in 1977). During these same years, machinery and appliance exports increased from $30 billion to $39.6 billion, and then to $49.7 billion — and thus this sector accounted for about 80% of the export increase in the period. The big 40% decline in inventory and fixed investment was offset by exports which accounted for 74% of the increase in GNE. The balance of payments changed to a surplus from 1975 and following the improved trade balance, the yen rose from ¥290 to the dollar at the beginning of the year to ¥240 in 1977 and even ¥170 in October 1978 — making for a 40% upward revaluation of the yen in two years.

On the domestic front, a continuing concern was the fiscal shortages from 1974, reflecting inflation and revenue drops due to lower corporate profits and slack domestic consumption. In the absence of any large-scale tax increase, these deficits had to be covered by the issuance of government bonds, which has now reached huge proportions. While dependency on government bonds was 20% in 1975, it was over 30% from 1977 to 1982, and cumulative domestic debt increased in nine years from ¥8.3 trillion in 1973 to ¥43.6 trillion in 1978 and ¥97.9 trillion in 1982. Thus restricted, the fiscal authorities were forced to pursue a passive policy and the factor of exports for recovery increased in importance.

Prime Minister Takeo Fukuda set about reconstructing national finances in 1977 and at the 1978 Bonn Summit declared a target of 7% economic growth through expanding fiscal investment to promote domestic demand as well as restoration of balanced international payments. To this end public works expenditures were substantially expanded, monetary restraint eased, and domestic consumption encouraged. Private plant and equipment investment recovered strongly in 1979 and capacity utilization in manufacturing industries is thought to have reached 90% of the 1970 level. Though domestic problems which had emerged in the early-1970s seemed to have been resolved, it was the external environment which once again impinged upon Japan in

1979 in the form of a higher import bill (the import price index was up 69% in November 1979, year to year) due to higher oil prices and also those of raw materials to a lesser extent following the second oil crisis sparked by the Iranian revolution and OPEC's subsequent oil price strategy. This, coupled with a decline in the value of the yen from ¥170 to the dollar in October 1978 to ¥250 a year later frustrated Fukuda's policy and forced the authorities to defer public spending and implement a tight money policy. With public finance in the red, resort to deficit financing bonds still had to be made.

Though OPEC hiked oil prices in June of 1979 to $19 a barrel (up $8 from the end of 1978) and then to $30 at the beginning of 1980, the Japanese government's early preventive tight money policy and curtailment of fiscal expenditure succeeded in restraining inflation and stopped it from being reflected in general prices though naturally prices of oil and related products rose. This success is seen in WPI (wholesale price index) which while rising 7.2% in 1979, year on year, and 17.7% in 1980, stabilized at a remarkably low 1.4% in 1981. In 1980, CPI was under 10%. In contrast with reaction to the first oil crisis, this time there was no confusion and a minimum of speculation. Thus, by 1981 prices were stable and Japan had an approximate 3% growth rate. Naturally, a degree of recession was inevitable but it was far milder than that following the first oil crisis and it is noteworthy that oil imports declined considerably from 281 million kl. in 1979 to 212 million kl. in 1982.

In the 1980s

In the 1980s, further energy saving technology has been developed and introduced. If we divide the index of energy consumed by the index of production we get the index of energy consumed per one unit of the production index. With 1973 as the base year with an index of 100, energy consumed by the overall manufacturing industry dropped to 90 in 1977, 73 in 1980, and 63 in 1982. Certainly a remarkable achievement. Breaking down

manufacturing, we find that the chemical industry had an index of 53 in 1982 and the iron and steel industry one of 74. At the same time as pursuing energy saving and rationalization policies, manufacturers have entered new areas, such as the steel industry launching into housing construction, and also the development of knowledge-intensive high value-added items in the areas of office automation, robotics, biotechnology, etc., all of which testifies to the adaptability of Japanese industries to a changing business environment. Highlighting this structural shift are 1982 production indexes (1973=100): mining 82, textiles 91, metals 99, food 112, chemicals 129, and machinery 155. Related to this structural shift, as already mentioned, has been the increasing proportion of the working population engaged in tertiary industry. By 1983, it accounted for 56% of the working population, having absorbed two-thirds of the increment in labor since the first oil crisis.

On the international scene, Japan has come to account for 8.8% of total world exports and 7.3% of total world imports on a value basis (1983), and Japanese trade policies have come to influence the international economy to a very significant degree.

The experience of postwar Japan provides ample evidence that the expansion of world trade and international investment has been a key factor for economic development, modernization, and growth. In this context, Japanese corporations have been increasingly investing overseas in recent years.

Japan, taking into account increasing interdependence among nations and the international role she is expected to play as the second largest economy in the free world, has taken successive measures to open her market to foreign goods, promote imports, and refrain from excessive exports of specific products. The positive stance of Japan toward a new round of multilateral trade negotiations (MTN) is another example in this regard.

Measures have also been taken to facilitate the inflow of foreign capital, encourage international transactions in yen, and

improve the conditions of her financial and capital markets. As a result of a series of market-opening measures Japan's tariffs are now some of the lowest among the industrialized nations.

Major issues facing the Japanese economy at present include a huge long-term government debt (36.4% of GNP at the end of 1982 — second largest worldwide following 44.2% for the United Kingdom), and its extreme vulnerability to external factors more than any other advanced nation, e.g. heavy dependence on imports not only of crude oil but many other items such as coal, raw cotton, wool, rubber, food, lumber, etc. The NICs (newly-industrializing countries) such as the Republic of Korea and the Republic of Singapore are posing new challenges by taking advantage of their relatively low labor costs and making inroads into the worldwide steel, shipbuilding, black and white TV, and automobile markets.

In looking back, Japan's economy has responded, and is continuing to respond, to these and other major issues and a different economic environment. Indeed, the responses themselves are ever unlocking new possibilities and horizons.

GLOSSARY

CPI	Consumer Price Index
daimyo	Local lords
Edo era/period	Period of rule under the Tokugawa family (1603-1867); also called the Tokugawa period; Edo was the former name for Tokyo — the seat of the Tokugawa Shogunate
GDP	Gross Domestic Product
GNE	Gross National Expenditure
GNP	Gross National Product
han	Areas granted by the Shogunate (office of the Shogun) to local lords
IMF	International Monetary Fund
Keynesian	One who supports Keynes' economic theories
Meiji era/period	Period of rule (1868-1912) under the Emperor Meiji
Meiji Restoration	In 1868, the Emperor was restored to power
MTN	Multilateral trade negotiations
OPEC	Organization of Petroleum Exporting Countries
samurai	Warriors
Shogun	The leading member of the Tokugawa family who ruled absolutely
Tokugawa period	Period of rule under the Tokugawa family (1603-1867)
WPI	Wholesale Price Index
zaibatsu	Cohesive family-controlled groups of monopolistic companies in key economic areas